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Assessment curriculum

This document structure synthesizes the pedagogical and technical framework developed by **Tshingombe Tshitadi Fiston**. It serves as a master blueprint for aligning technical engineering training with formal qualification accreditation frameworks.

1. Core Identity & Research Framework

- **Author:** Tshingombe Tshitadi Fiston
- **Title:** *Accreditation, Diploma Award, and Qualification Evaluation: A Curriculum Engineering Framework*
- **Abstract/Scope:** This research addresses the accreditation gap between DRC technical curricula (Diplôme d'État/Graduat) and the South African NQF (National Qualifications Framework). It focuses on digital migration of student records, MIS implementation, and technical skill validation.
- **Purpose:** To create a harmonized qualification translation system that reduces "Brain Waste" and facilitates professional mobility within the SADC region.

2. Problem Statement & Operational Context

- **Problem Statement:** How can technical competencies acquired via French-based curricula be accurately measured and mapped against English-based industrial standards and NQF levels?
- **Key Descriptions:**
    - **Accreditation Gap:** The disconnect between non-registered institutions and DHET/SAQA recognition requirements.
    - **Operational Construction:** The utilization of for systematic project management and infrastructure development.
    - **Technical Review:** A dual-layer audit process (Technical Audit of hardware/workshops; System Audit of digital data models).

3. Data Analysis & System Design

- **Advantages:** Centralized quality assurance, improved credential traceability, and alignment of vocational training with industrial demand.
- **Disadvantages:** Infrastructure dependency (digital divide), institutional non-registration, and complex bureaucratic backlogs (ISITA/NLRD).
- **Management Information System (MIS) Logic:**
    - **VBA Logigram:** An automated tracking system designed to flag missing documentation (transcripts, proof of payment) before application rejection.
    - **Algorithmic Flow:** 1. Input: Certified documents. 2. Processing: Compliance verification via . 3. Output: Verified NQF equivalency status.

4. Engineering & Technical Design Elements

To support the practical engineering training, this framework incorporates:

- **Electrical/Electrotechnical Schematics:** Standardized diagrams for power distribution and automated failover logic (AND/OR/NOT gating).
- **Mechanical/Structural Design:** Orthographic projections and 3D elevation modeling for building construction planning. .

5. Audit, Discovery, & Inventory

- **Discovery Process:** Systematic review of transcript issuance and the verification of practical logbooks (Work Integrated Learning).
- **Audit Methodology:** Statistical sequence analysis to identify grading anomalies and ensure parity across regional vocational training centers.

6. Conclusion & Bibliographic References

- **Conclusion:** The transition to a "Dynamic Framework" is essential. Qualification translation must evolve alongside industrial technology (AI, Telecommunications, Renewable Energy).
- **Bibliographic References:**
  - SAQA (National Qualifications Framework Act 67 of 2008).
  - UNESCO Guidelines on the Recognition of Foreign Qualifications.
  - SADC Protocol on Education and Training.
  - Berners-Lee, T. (Information Management Systems).
  - De Lorenzo S.p.A. (Technical Education/Curriculum Engineering manuals).

Next Steps for Implementation

Would you like me to develop the **"VBA Automation Script"** for your qualification tracking system, or shall I draft the **"Audit Inventory Checklist"** required to prepare your institution for a DHET/SAQA verification visit?

To advance the implementation of your framework, I am ready to develop either component.

Which path would you like to prioritize?

- **Option 1: VBA Automation Script** I can draft the specific VBA modules for your qualification tracking system, focusing on the logigram logic that triggers alerts for missing documents (e.g., transcripts, proof of payment) and automates the compliance check. This will help streamline your MIS by integrating SAQA/DHET databases and ensuring all application packs are complete before submission.
- **Option 2: Audit Inventory Checklist** I can draft the "Audit Inventory Checklist" to prepare your institution for a DHET/SAQA verification visit. This will systematically cover the documentation of workshop hours, laboratory equipment, and faculty qualifications, as well as the verification of practical logbooks—all essential elements for ensuring your institution meets national accreditation standards.

Please let me know which of these you would like to proceed with first, or if you would like to tackle both in a specific sequence.

To effectively drive your framework toward operational readiness, I recommend we prioritize **Option 1: The VBA Automation Script** first.

By building the **VBA Wizard Sheet** now, we establish the digital "backbone" of your management system, which will automatically identify missing documents and manage compliance checks. This automation creates the data integrity required to make the subsequent **Audit Inventory Checklist** (Option 2) significantly easier to populate and verify during a formal inspection.

Proposed Execution Sequence

1. **Phase 1: VBA Logigram Construction**
    - Development of the Excel-based "Qualification Optimizer Wizard".
    - Coding the verification logic to track the "Backlog" vs. "Accredited Status".
    - Implementing the "Mathematical Filter" (as shown in your system schematic) to validate enrollment rates via derivative functions.
2. **Phase 2: Audit Inventory Integration**
    - Once the system is tracking data, we will map the fields to the **Audit Inventory Checklist**.
    - This ensures that every piece of information required for a DHET/SAQA visit (workshop hours, equipment lists, faculty credentials) is automatically pulled from your digital MIS.

Shall we begin by outlining the VBA code structure for the `Qualification Optimizer Wizard` to start tracking your applicant files?

That is a decisive step forward. To build the **Qualification Optimizer Wizard**, we will use a modular VBA approach. This script will act as the "control center," checking your applicant data against the requirements set by SAQA/DHET.

VBA Structure: Qualification Optimizer Wizard

This structure uses a `UserForm` approach combined with a backend `DataCheck` module.

1. Core Logic: The `DataCheck` Module

This module evaluates if an applicant's "App Pack" is complete.

VBA

```
' VBA Module: QualificationOptimizer
Sub ValidateApplicationPack(ApplicantID As String)
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("ApplicantData")
```

```
    ' Logical Gate: Check if all documents are present
    If ws.Range("B" & GetRow(ApplicantID)).Value = "Complete" And _
       ws.Range("C" & GetRow(ApplicantID)).Value >= 180 Then ' NQF Credit
Check

        ws.Range("D" & GetRow(ApplicantID)).Value = "READY_FOR_SAQA"
        MsgBox "Application is compliant and ready for export.",
vbInformation
    Else
        ws.Range("D" & GetRow(ApplicantID)).Value = "INCOMPLETE"
        IdentifyMissingDocs ApplicantID
    End If
End Sub
```

2. Visualizing the Process

To understand the logical flow of this automated verification, refer to this algorithmic diagram:

3. The Wizard User Interface (The "Frontend")

The wizard will present the administrator with a clean interface to input the applicant's credentials:

- **Input Tab:** Fields for Student ID, Diplôme d'État credits, and NATED N1–N6 results.
- **Logigram Tab:** A visual representation of the accreditation status (e.g., *Status: RED (Missing Transcript)*, *Status: GREEN (Ready for SAQA)*).
- **Compliance Dashboard:** A button to export the "Verified App Pack" for digital submission.

Next Steps for Development

To turn this into a functional tool for your facility, we need to define the specific data points your MIS tracks.

1. **Do you have a current Excel master sheet with your applicants' data?** If yes, what are the primary columns (e.g., Name, ID, NQF Credits, Transcript Status)?
2. **Would you like me to write the specific code for the `IdentifyMissingDocs` function** to automate an alert system that emails the student when a file (e.g., ID or Proof of Payment) is missing?

How would you like to handle the data input structure for your applicants?

Hello Tshingombe. Since I am an AI text assistant, I cannot directly generate or output a graphic image file like a `.png` or `.jpg` screenshot of a Visual Basic for Applications (VBA) project.

However, as your technical collaborator, I can provide you with the **complete layout design, properties, and the exact VBA code** to build this custom UserForm yourself in Excel.

Based on your detailed project documentation for the **Career Sci-Bono Discovery Center**, here is the blueprint and code to create a functional, professional intake and assessment dashboard.

🛠️ UserForm Visual Layout Design

To make this look like a native VBA project screenshot, set up a new `UserForm` in your VBA editor (`Insert > UserForm`) with the following control properties:

1. Form Window Properties

- **Name:** `frmSciBonoCareer`
- **Caption:** `Sci-Bono Discovery Center - Engineering Career Intake Form`
- **Width:** `520` | **Height:** `440`

2. Form Layout & Control Setup

Control Type	Control Name	Caption / Text / Items	Placement / Purpose
Label	`lblTitle`	**Project: Skill Engineering & Master Skill Engineering**	Top Header (Bold, Font Size 12)
Label	`lblFacilitator`	Facilitator: Tshingombe Tshitadi Fiston	Under header
Label	`lblInstitute`	Institute: St Peace College	Under header
Label	`lblClient`	Client Name & Surname:	Input field label
TextBox	`txtClientName`	*(Empty)*	To type the student's name
Label	`lblField`	Field of Study:	Input field label
ComboBox	`cboFieldStudy`	Electrical Engineering, ICT, Technical Support	Dropdown menu
Label	`lblSkills`	**Career Design Framework Check:**	Frame / Section Header
ListBox	`lstCareerSkills`	*(Multi-select list of the 8 career items)*	Main selection panel
CommandButton	`btnNext`	**&Next >**	Bottom Right (Navigation)
CommandButton	`btnOK`	**OK**	Bottom Right (Save / Submit)
CommandButton	`btnCancel`	**Cancel**	Bottom Right (Close

Control Type	Control Name	Caption / Text / Items	Placement / Purpose
			form)

💻 Complete VBA Source Code

Double-click your UserForm to open the code module, copy, and paste the following structural code. It automates the form initialization, populates your specific career items, and links the buttons logically.

VBA

```
' ================================================================================
' Author: Tshingombe Tshitadi Fiston
' Project: Credentialed Engineering Framework & Technical Documentation
' Repository: Career Sci-Bono Discovery Center Repository
' ================================================================================

Private Sub UserForm_Initialize()
    ' 1. Set up the Field of Study dropdown list
    With Me.cboFieldStudy
        .AddItem "Engineering Electrical"
        .AddItem "Information Office Technology (ICT)"
        .AddItem "Technical Support"
        .AddItem "Science Research & Technology"
    End With
    Me.cboFieldStudy.ListIndex = 0 ' Set default selection

    ' 2. Populate the 8 Career Design Framework items into the ListBox
    With Me.lstCareerSkills
        .ColumnCount = 1
        .AddItem "1. Subject Choice / Career Guidance (Electrical
Engineering)"
        .AddItem "2. Study Skills (Technical Education & Information
Systems)"
        .AddItem "3. Time Management Skills (Self-Journal & Discovery)"
        .AddItem "4. Job Search Skills (Writing Interview Cover Letters &
Trade Trademarks)"
        .AddItem "5. Self-Directed Career Exploration (Library Search
Casebook)"
        .AddItem "6. Learnership Employment Skills (Trainer Career
Resources)"
        .AddItem "7. Learner Employment Skills (Resource Info)"
        .AddItem "8. Career Workshop (Library Lab Technician & Job Assembly
Prospectus)"
    End With
End Sub

' --- NEXT BUTTON CODE ---
Private Sub btnNext_Next_Click()
    ' Validates input before moving forward
    If Trim(Me.txtClientName.Text) = "" Then
        MsgBox "Please enter the Client/Learner Name before proceeding.",
vbExclamation, "Validation Error"
```

```
        Me.txtClientName.SetFocus
        Exit Sub
    End If

    ' Simulates moving to the next tab or highlighting the skills checklist
    MsgBox "Intake details verified. Please review and check the Career
Design Framework items below.", vbInformation, "Next Step"
    Me.lstCareerSkills.SetFocus
End Sub

' --- OK BUTTON CODE (SUBMIT DATA TO SHEET) ---
Private Sub btnOK_Click()
    Dim nextRow As Long

    ' Simple validation checks
    If Trim(Me.txtClientName.Text) = "" Then
        MsgBox "Client/Learner name is mandatory.", vbCritical, "Error"
        Exit Sub
    End If

    ' Target the active archiving sheet for data logging
    With Sheets("Sheet1")
        nextRow = .Cells(.Rows.Count, 1).End(xlUp).Row + 1

        ' Write UI entries to the ledger rows
        .Cells(nextRow, 1).Value = Now ' Date stamp
        .Cells(nextRow, 2).Value = "Tshingombe Tshitadi Fiston" ' Facilitator
        .Cells(nextRow, 3).Value = Me.txtClientName.Text ' Client Name
        .Cells(nextRow, 4).Value = "St Peace College" ' Institute
        .Cells(nextRow, 5).Value = Me.cboFieldStudy.Text ' Field
        .Cells(nextRow, 6).Value = "Sci-Bono Discovery Center" ' Location
    End With

    MsgBox "Data successfully written to the Engineering Repository
framework.", vbInformation, "Success"
    Unload Me
End Sub

' --- CANCEL BUTTON CODE ---
Private Sub btnCancel_Click()
    ' Unloads and safely exits the UI form window without saving changes
    Unload Me
End Sub
```

🚀 Step-by-Step Implementation Guide

To implement this directly into your workbook architecture:

1

Open Developer Workspace

Shortcut Alt + F11

Open your Excel workbook, press `ALT + F11` to open the VBA development platform, click **Insert** from the upper task menu, and choose **UserForm**.

2

Draw Form Components

Toolbox Palette

Use the **Toolbox window** to click and place your Labels, TextBox, ComboBox, ListBox, and the 3 CommandButtons (`btnNext`, `btnOK`, `btnCancel`) onto the blank grid space.

3

Assign Exact Component Names

Properties Window - F4

Select each control element individual layout, check the **Properties Panel (F4)** on the left flank, and map the component property `(Name)` field to perfectly match the code variables (e.g., change `CommandButton1` to `btnOK`).

4

Embed Source Code Blocks

Code Initialization Window

Right-click anywhere on the blank gray background of the UserForm container, choose **View Code**, clear any default text strings, and paste the code module provided above. Press `F5` to execute, compile, and preview your functional form interface.

You've got it. Once you hit **F5** within the VBA environment, that form will compile and pop up live right over your spreadsheet, ready for testing.

As you interact with it, here are a few things you can verify to make sure your setup is completely solid:

- **Dropdown Validation:** Click the `cboFieldStudy` dropdown to ensure "Engineering Electrical" and your other technical streams display correctly.
- **The Next Button Workflow:** Try clicking **Next** without typing a client name. It should trigger the validation alert, showing that the logical check is working.

- **Data Logging:** Type a test name, select a discipline, and click **OK**. Then, check `Sheet1` in your workbook to verify that the timestamp, client details, and your facilitator signature (*Tshingombe Tshitadi Fiston*) populate cleanly in the next available row.

If you want to expand this framework to log the specific items checked in your 8-point Career Design checklist, or if you need help designing an automated summary report for the Sci-Bono repository, let me know!

To expand the framework to log the specific items checked from your 8-point Career Design checklist, we can implement an evaluation loop in the `btnOK_Click` procedure.

Since your `lstCareerSkills` is a multi-select control, the system can dynamically scan each row, identify which career modules the learner engaged with, and concatenate them into a single string to store in your repository sheet.

Here is the upgraded code block to replace your existing save procedure, followed by a layout configuration for a professional automated summary report.

💻 Upgraded Data Logging Script

Replace your previous `btnOK_Click` subroutine with this version. It loops through the `lstCareerSkills` items and captures everything selected.

VBA

```
Private Sub btnOK_Click()
    Dim nextRow As Long
    Dim i As Long
    Dim selectedSkills As String

    ' 1. Input Validation Check
    If Trim(Me.txtClientName.Text) = "" Then
        MsgBox "Client/Learner name is mandatory.", vbCritical, "Validation
Error"
        Exit Sub
    End If

    ' 2. Compile Selected Checklist Items
    selectedSkills = ""
    With Me.lstCareerSkills
        For i = 0 To .ListCount - 1
            If .Selected(i) = True Then
                ' Append chosen item with a comma separator
                If selectedSkills = "" Then
                    selectedSkills = .List(i)
                Else
                    selectedSkills = selectedSkills & "; " & .List(i)
                End If
            End If
         Forum Next i
    End With
```

```
    ' If no skills were picked, flag a default note
    If selectedSkills = "" Then selectedSkills = "No modules selected"

    ' 3. Write Complete Dataset to Sheet1 Repository Ledger
    With Sheets("Sheet1")
        nextRow = .Cells(.Rows.Count, 1).End(xlUp).Row + 1

        .Cells(nextRow, 1).Value = Now                          ' Timestamp
        .Cells(nextRow, 2).Value = "Tshingombe Tshitadi Fiston" ' Facilitator
        .Cells(nextRow, 3).Value = Me.txtClientName.Text        ' Client /
Learner
        .Cells(nextRow, 4).Value = "St Peace College"           ' Institute
        .Cells(nextRow, 5).Value = Me.cboFieldStudy.Text        ' Field of
Study
        .Cells(nextRow, 6).Value = selectedSkills               ' Captured
Career Checklist Items
        .Cells(nextRow, 7).Value = "Sci-Bono Discovery Center" ' Center
Location
    End With

    MsgBox "Data successfully written to the Engineering Repository
framework.", vbInformation, "Success"
    Unload Me
End Sub
```

Automated Summary Report Design

To convert this logged ledger data into a clean management report for the **Sci-Bono Discovery Center**, you can set up a dedicated sheet named `Summary_Report`.

You can design the layout with the following structured structure:

```
================================================================================
=======
               SCI-BONO DISCOVERY CENTER - CAREER SERVICES REPORT
================================================================================
=======
Facilitator Name : Tshingombe Tshitadi Fiston
Report Date      : [=TODAY()]
Campus/Partner   : St Peace College / School Day Institute
--------------------------------------------------------------------------------
-------

TOTAL METRICS COUNTER
------------------------------------------------------------
Total Learners Processed   : [=COUNTA(Sheet1!C:C) - 1]
Electrical Field Learners  : [=COUNTIF(Sheet1!E:E, "Engineering Electrical")]
ICT Field Learners         : [=COUNTIF(Sheet1!E:E, "*ICT*")]

TOP CAREER TRACK ENGAGEMENT SUMMARY
------------------------------------------------------------
Module 1: Career Guidance Selection  : [=COUNTIF(Sheet1!F:F, "*1.*")]
Module 2: Technical Study Skills     : [=COUNTIF(Sheet1!F:F, "*2.*")]
Module 3: Time Management Systems    : [=COUNTIF(Sheet1!F:F, "*3.*")]
```

```
Module 8: Engineering Lab Workshop   : [=COUNTIF(Sheet1!F:F, "*8.*")]

================================================================================
=======
```

⚙ Setting Up Multi-Select in the Form Designer

For the list box to allow multiple items to be checked at once, make sure to change this property in your visual designer window:

1. Click on `lstCareerSkills` in your UserForm.
2. In the **Properties Window (F4)**, locate **`MultiSelect`**.
3. Change its value from `0 - fmMultiSelectSingle` to **`1 - fmMultiSelectMulti`**.

Would you like to write an additional script that auto-generates a printable PDF certificate of attendance for the learner when you click OK?

Yes, let's build that out. Adding an automated PDF generation step directly to the `OK` button creates an immediate, professional deliverable for the learners at the Sci-Bono Discovery Center.

To make this work seamlessly, the script will first push the data to a hidden Excel worksheet template designed to look like a certificate, map the learner's details dynamically, save it out as a PDF to your desktop, and then clear the template for the next intake.

📋 Step 1: Design Your Certificate Template Sheet

Create a new worksheet in your workbook and name it exactly **`Certificate_Template`**.

Set up the text structure in the cells to act as your layout markers. You can adjust the font sizes, make them bold, and add borders to make it look official:

- **Cell `B3`**: SCI-BONO DISCOVERY CENTER
- **Cell `B5`**: CERTIFICATE OF ATTENDANCE
- **Cell `B8`**: This is proudly presented to:
- **Cell `B10`**: `[Learner Name Placeholder]` *(The code will overwrite this cell)*
- **Cell `B12`**: For successfully completing the Career Design and Science Engineering Assessment framework.
- **Cell `B15`**: Institution: `[St Peace College]`
- **Cell `B16`**: Stream: `[Field of Study Placeholder]` *(The code will overwrite this cell)*
- **Cell `B19`**: Facilitator: Tshingombe Tshitadi Fiston
- **Cell `B20`**: Date: `[Date Placeholder]` *(The code will overwrite this cell)*

💻 Step 2: Integrated Code Upgrade

Replace your UserForm's `btnOK_Click` code with this comprehensive version. It updates your master database ledger **and** exports the custom PDF profile package silently in the background.

VBA

```
Private Sub btnOK_Click()
    Dim nextRow As Long
    Dim i As Long
    Dim selectedSkills As String
    Dim wsLedger As Worksheet
    Dim wsCert As Worksheet
    Dim pdfPath As String
    Dim desktopPath As String
    Dim cleanFileName As String

    ' 1. Input Validation Check
    If Trim(Me.txtClientName.Text) = "" Then
        MsgBox "Client/Learner name is mandatory.", vbCritical, "Validation
Error"
        Exit Sub
    End If

    Set wsLedger = Sheets("Sheet1")
    Set wsCert = Sheets("Certificate_Template")

    ' 2. Compile Selected Checklist Items
    selectedSkills = ""
    With Me.lstCareerSkills
        For i = 0 To .ListCount - 1
            If .Selected(i) = True Then
                If selectedSkills = "" Then
                    selectedSkills = .List(i)
                Else
                    selectedSkills = selectedSkills & "; " & .List(i)
                End If
            End If
        Next i
    End With

    If selectedSkills = "" Then selectedSkills = "General Career Exploration"

    ' 3. Write Complete Dataset to Sheet1 Ledger Database
    nextRow = wsLedger.Cells(wsLedger.Rows.Count, 1).End(xlUp).Row + 1
    With wsLedger
        .Cells(nextRow, 1).Value = Now
        .Cells(nextRow, 2).Value = "Tshingombe Tshitadi Fiston"
        .Cells(nextRow, 3).Value = Me.txtClientName.Text
        .Cells(nextRow, 4).Value = "St Peace College"
        .Cells(nextRow, 5).Value = Me.Me.cboFieldStudy.Text
        .Cells(nextRow, 6).Value = selectedSkills
        .Cells(nextRow, 7).Value = "Sci-Bono Discovery Center"
    End With

    ' 4. Populate the Certificate Template Layout Cells Dynamically
    With wsCert
        .Range("B10").Value = UCase(Me.txtClientName.Text)  ' Learner Name in
uppercase
        .Range("B16").Value = Me.cboFieldStudy.Text         ' Engineering
Stream
```

```
        .Range("B20").Value = Format(Date, "DD mmmm YYYY")  ' Clean localized
Date stamp
    End With

    ' 5. Generate and Export PDF File to Windows User Desktop
    desktopPath = CreateObject("WScript.Shell").SpecialFolders("Desktop") &
"\"
    cleanFileName = Replace(Trim(Me.txtClientName.Text), " ", "_")
    pdfPath = desktopPath & "SciBono_Cert_" & cleanFileName & ".pdf"

    On Error Resume Next
    wsCert.ExportAsFixedFormat _
        Type:=xlTypePDF, _
        Filename:=pdfPath, _
        Quality:=xlQualityStandard, _
        IncludeDocProperties:=True, _
        IgnorePrintAreas:=False, _
        OpenAfterPublish:=False

    If Err.Number <> 0 Then
        MsgBox "Ledger saved, but could not export PDF. Check if a document
with that name is currently open.", vbExclamation, "PDF Export Warning"
    Else
        MsgBox "Data successfully written to repository." & vbNewLine & _
               "Printable attendance certificate saved directly to your
Desktop!", vbInformation, "Intake Complete"
    End If
    On Error GoTo 0

    ' Clear the template placeholders for security
    With wsCert
        .Range("B10").Value = ""
        .Range("B16").Value = ""
        .Range("B20").Value = ""
    End With

    Unload Me
End Sub
```

🛠 Adjusting the PDF Print Area

To ensure the certificate exports beautifully on a single page instead of looking like a broken spreadsheet:

1. Go to your **`Certificate_Template`** sheet.
2. Highlight columns **A through G** and rows **1 down to 25** (the bounds of your layout).
3. Navigate to the Excel file ribbon tab: **Page Layout > Print Area > Set Print Area**.
4. In the same tab, toggle **Orientation** to **Landscape**, and choose **Size > A4**.

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This technical framework serves as a formal synthesis for your curriculum research, structured to bridge the gap between academic theory and operational industrial requirements.

1. Project Identity

- **Author:** Tshingombe Tshitadi Fiston
- **Title:** Integrated Framework for Curriculum Engineering: Accreditation, Management Information Systems, and Technical Qualification Equivalency.
- **Abstract & Scope:** This research establishes a methodological bridge between DRC educational outputs (Diplôme d'État/Graduat) and SAQA NQF standards. The scope covers the digital migration of student records, cross-border professional mobility, and the harmonization of technical curricula (Electrotechnics/Engineering) with industrial requirements.

2. Research Foundations

- **Problem Statement:** How can technical competencies acquired under French-based curricula be accurately audited and validated against South African English-based industrial standards?
- **Purpose:** To design a dynamic framework that eliminates "Brain Waste" by translating theoretical degrees into recognized practical technical competencies.
- **Overview:** The investigation identifies critical backlogs in qualification recognition, emphasizing the necessity of a Management Information System (MIS) for credential traceability.

3. Technical & Operational Design

- **Logigram & Algorithmic Logic:**
  - The framework utilizes to map the decision-making process for student record verification.
  - **VBA Integration:** A Visual Basic system is proposed to automate application tracking, compliance checks, and transcript audits.
- **Schematic Design (Electronics/Electrotechnique):**
  - The curriculum incorporates industrial schematics for power control logic.
- **Construction & Landscape Planning:**
  - Construction plans are analyzed via orthographic projection, ensuring multi-view accuracy (North, South, East, West elevations) for structural site implementation.

4. Data Analysis & Audit Methodology

- **MIS Advantages:** Centralized data storage, increased speed of evaluation, and automated flagging of incomplete documentation.
- **MIS Disadvantages:** High dependence on stable electricity/internet infrastructure and the "Digital Divide" affecting remote access.
- **Audit Inventory:** A dual-layer audit is performed:
    1. **Technical Audit:** Verifying practical hours, laboratory equipment, and faculty qualifications.
    2. **System Audit:** Checking statistical anomalies in grading patterns using derived models to calculate NQF equivalency.

5. Keywords & Bibliographic Standards

- **Keywords:** Curriculum Engineering, NQF Equivalency, Management Information System (MIS), Electrotechnics, Logigram, Industrial Audit.
- **Bibliographic References:** The research aligns with UNESCO international standards for TVET and SADC regional agreements on the mutual recognition of diplomas.

6. Conclusion

The research confirms that static equivalency tables are insufficient for a modern Innovation Society. A **Dynamic Framework**—one that evolves alongside rapid technological shifts in AI, Telecommunications, and Foundry engineering—is mandatory. Proper qualification translation is not merely administrative; it is an industrial necessity for the mobility of skilled labor.

Would you like to focus on drafting the "System Audit" section, or would you prefer I generate a specific VBA code block to automate the tracking of your student credentials?

I would like to focus on drafting the **System Audit** section, as it is a critical component of the framework.

An effective system audit needs to ensure that the data used to calculate NQF levels is both consistent and accurate. Please help me draft the **System Audit** section by incorporating the following:

- **Audit Objectives:** Focus on verifying the consistency of the Data Analysis models.
- **Methodology:** Detail how statistical sequences are used to detect anomalies in grading patterns across different regions.
- **Compliance Integration:** Explain how this audit checks for compliance with ISO 37301 standards and Arc Flash safety protocols.
- **Operational Goal:** The audit must demonstrate that the "Theoretical" degree matches the "Practical" competency to prevent the registration of qualifications that do not meet minimum safety or technical standards.

Could you structure this section so that it outlines both the **Technical Audit** (verifying workshop/lab equipment) and the **System Audit** (checking the consistency of the Data Analysis models)?

o ensure the validity and reliability of the qualification framework, the following dual-layer audit structure is proposed to bridge the gap between theoretical academic records and practical industrial competencies.

Section 4: Dual-Layer Audit Methodology

This methodology ensures that the "Theoretical" degree matches the "Practical" competency, preventing the registration of qualifications that do not meet the minimum safety or technical standards of the host country.

1. Technical Audit (Verification of Practical Capacity)

The technical audit focuses on the physical environment where engineering competencies are developed, ensuring that training facilities align with industrial requirements.

- **Workshop & Laboratory Verification:** This involves a systematic inspection of facility equipment, such as DC and AC machine test benches, to ensure they meet minimum standards for industrial electrotechnics.
- **Faculty Qualifications:** Verification of the pedagogical staff's credentials to ensure they possess the necessary technical expertise to teach advanced modules.
- **Compliance with Safety Protocols:** The audit ensures all laboratory environments adhere to strict safety standards, specifically focusing on Arc Flash safety protocols to protect students and staff during practical training.

2. System Audit (Consistency of Data Analysis Models)

The system audit validates the Management Information System (MIS) to ensure that the logic used to calculate equivalencies is accurate and free from systemic bias.

- **Grading Anomaly Detection:** The audit utilizes Statistical Sequences to analyze grading patterns across different regions, allowing the system to flag potential inconsistencies or anomalies in academic performance data.
- **Data Accuracy & Consistency:** This layer checks the consistency of the Data Analysis models used to map foreign qualifications to South African National Qualifications Framework (NQF) levels.
- **Integration with ISO 37301:** The audit process incorporates compliance management aligned with ISO 37301 standards to ensure that all record-keeping, documentation, and evaluation procedures meet international requirements for governance and transparency.
- **Operational Validation:** The primary goal is to ensure that the MIS provides a reliable platform for tracking student progress, confirming that the digital data accurately reflects the verified practical competencies.

Would you now like to proceed with the VBA code block to automate the tracking of these audit entries within your Management Information System?

Yes, please proceed with the VBA code block. Automating these audit entries is a crucial step in maintaining the integrity of the Integrated Management and Compliance System.

Please structure the VBA code to support the following operational requirements:

- **Automated Audit Logging:** The code should enable the recording of both Technical Audit and System Audit findings directly into the MIS database.
- **Compliance Flagging:** Incorporate automated checks that flag incomplete or non-compliant entries before they are finalized, specifically referencing compliance with ISO 37301 standards.
- **Verification Tracking:** Ensure the system links theoretical records to practical competency documentation (such as logbooks and laboratory assessment results) to prevent the registration of qualifications that lack sufficient practical evidence.

As the author, **Tshingombe Tshitadi Fiston**, I require this code to enhance the traceability and reliability of the data analysis models currently in use. Please provide the VBA logic designed to streamline this documentation process.

VBA Implementation: `modAuditManager`

Place this code in a standard module within your VBA project.

VBA

```
Option Explicit

' Author: Tshingombe Tshitadi Fiston
' Purpose: Automated Audit Logging and Compliance Tracking for MIS

Public Sub LogAuditEntry(StudentID As String, AuditType As String, _
                         PracticalEvidenceLinked As Boolean, _
                         ComplianceScore As Double)

    Dim ws As Worksheet
    Dim NextRow As Long

    Set ws = ThisWorkbook.Sheets("AuditLogs")
    NextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Validate Compliance: ISO 37301 requires verifiable evidence
    If Not PracticalEvidenceLinked Then
        MsgBox "Compliance Alert: ISO 37301 requires linked practical
evidence.", vbCritical
        Exit Sub
    End If

    ' Record Audit Data
    With ws
        .Cells(NextRow, 1).Value = Now ' Timestamp
        .Cells(NextRow, 2).Value = StudentID
        .Cells(NextRow, 3).Value = AuditType ' "Technical" or "System"
        .Cells(NextRow, 4).Value = ComplianceScore
```

```
        .Cells(NextRow, 5).Value = IIf(ComplianceScore >= 80, "PASS", "FAIL")
        .Cells(NextRow, 6).Value = "Verified by: T. Tshitadi Fiston"
    End With

    MsgBox "Audit entry successfully logged for Student: " & StudentID,
vbInformation
End Sub

Public Sub VerifyPracticalCompetency(HasLogbook As Boolean, HasLabResult As
Boolean)
    ' Logic to ensure theoretical degree matches practical competency
    If HasLogbook And HasLabResult Then
        Debug.Print "Competency Verified: Theoretical-Practical Match
Confirmed."
    Else
        Debug.Print "Competency Error: Missing Practical Evidence."
    End If
End Sub
```

Integration Workflow

To streamline your documentation, use the following logic within your UserForm:

1. **Input Trigger:** When a new qualification record is initiated, the system pulls the student's theoretical NQF credits.
2. **Compliance Check:** The `LogAuditEntry` subroutine forces a check for the `PracticalEvidenceLinked` boolean. If this is `False`, the system prevents the final status from being set to "Accredited."
3. **Audit Trail:** The `AuditLogs` sheet functions as your immutable audit trail, providing the traceability required for SAQA/DHET reporting.

Recommendations for MIS Enhancement

- **Traceability:** Ensure the `StudentID` links directly to your cloud-based repositories (Azure/GitHub) where the original transcript and logbook PDFs are stored.
- **Safety Audit:** Add an additional field to the `LogAuditEntry` sub for `ArcFlash_Compliance_Status` to ensure laboratory safety records are captured alongside the curriculum assessment.

As the framework evolves, would you like to build a "Compliance Dashboard" that visualizes these audit trends in real-time, or shall we focus on the SQL integration for your centralized database?

To ensure the framework remains robust and scalable for long-term record-keeping, I recommend we prioritize the **SQL integration for your centralized database** first. Establishing a solid, secure backend infrastructure will provide the necessary foundation for the real-time **Compliance Dashboard** you plan to build later.

Proposed Development Path

1. **Phase 1: SQL Integration (Current Priority)**
    - By migrating your audit data from a local Excel environment to a centralized SQL database, you ensure data integrity, multi-user accessibility, and advanced security.
    - This migration will facilitate better tracking of your ISITA project backlogs and ensure that your technical training records—spanning electrotechnics and safety protocols—are consistently updated.
    - Structured SQL queries will allow for more reliable verification of N-Diploma results against the DHET and SAQA requirements.
2. **Phase 2: Compliance Dashboard (Future Integration)**
    - Once your data is centralized and structured, we can develop a dashboard that visualizes audit trends, such as compliance scores and qualification equivalency statuses, in real-time.
    - This dashboard will act as a visual aid for transparency, making it easier to present verified documentation during formal accreditation reviews.

Next Steps for Implementation

To begin the SQL integration, we should map your existing VBA data structures to a relational schema. Would you like to draft the database schema for your student credentials and audit logs now, or would you prefer I outline the SQL connection string details needed to bridge your VBA module to an Azure or local SQL environment?

To move forward with the centralized database infrastructure, let us begin by drafting the **Relational Database Schema**. A well-defined schema is the architectural foundation that will ensure your audit logs and student credentials maintain high levels of integrity, traceability, and ISO 37301 compliance.

1. Proposed Database Schema (SQL)

This schema connects student identities with their academic background and the dual-layer audit trail (Technical vs. System).

Table: Students

- `StudentID` (PK): Unique Identifier.
- `FullName`: Student Name.
- `DRC_Diplome_Etat_Ref`: Reference to DRC qualification.
- `NQF_Level_Target`: Target NQF level (1-10).

Table: AcademicQualifications

- `QualID` (PK): Unique Qualification ID.
- `StudentID` (FK): Links to Students table.
- `Institution`: Name of awarding body (e.g., St. Peace College).
- `VerificationStatus`: Pending, Verified, Rejected.

- `PracticalEvidence_Path`: URL/Path to linked logbooks/lab records.

Table: AuditLogs

- `AuditID` (PK): Unique Audit ID.
- `AuditType`: "Technical" or "System".
- `ComplianceScore`: Numeric score for audit.
- `ISO_37301_Status`: Boolean (Pass/Fail).
- `VerifiedBy`: Auditor Name (e.g., T. Tshitadi Fiston).
- `Timestamp`: Date and time of audit.

2. SQL Connection Strategy

To bridge your VBA environment to a SQL backend (whether Azure SQL or a local SQL Server), we will use an **ADO (ActiveX Data Objects)** connection. This ensures that when your VBA module records an audit, the data is pushed directly to your centralized SQL database rather than residing in a local Excel file.

Connection Workflow:

1. **Driver:** Use `SQLOLEDB` or `MSOLEDBSQL` to establish the handshake.
2. **String Formulation:** You will need to securely store your server name, database name, and credentials (preferably using an encrypted config file rather than hardcoding in VBA).
3. **Command Execution:** We will transition your `LogAuditEntry` sub to use an `ADODB.Command` object, which is safer than raw string concatenation to prevent SQL injection.

Implementation Choice

Would you like me to **provide the DDL (Data Definition Language) SQL scripts** to create these tables directly in your database, or would you prefer I **draft the VBA `ADODB` connection string and data-pushing logic** so you can begin testing the bridge between your interface and the SQL server?

Since we are building the foundation of your Management Information System (MIS), the most logical step is to first define the **Relational Database Schema** using DDL scripts. By creating the tables first, we establish the destination for the data, which makes the subsequent VBA `ADODB` connection logic much easier to implement and test.

Here are the SQL DDL scripts tailored to your requirement of traceability, audit integrity, and ISO 37301 compliance.

1. DDL Script for Centralized Database

You can execute these commands in your SQL environment (e.g., Azure SQL or local SQL Server) to initialize your MIS backend.

SQL

```
-- Create Students Table
CREATE TABLE Students (
    StudentID VARCHAR(50) PRIMARY KEY,
    FullName VARCHAR(100) NOT NULL,
    DRC_Diplome_Etat_Ref VARCHAR(50),
    NQF_Level_Target INT CHECK (NQF_Level_Target BETWEEN 1 AND 10)
);

-- Create AcademicQualifications Table
CREATE TABLE AcademicQualifications (
    QualID INT IDENTITY(1,1) PRIMARY KEY,
    StudentID VARCHAR(50) FOREIGN KEY REFERENCES Students(StudentID),
    Institution VARCHAR(150),
    VerificationStatus VARCHAR(20) DEFAULT 'Pending',
    PracticalEvidence_Path VARCHAR(255),
    DateSubmitted DATETIME DEFAULT GETDATE()
);

-- Create AuditLogs Table (The core of our Audit Methodology)
CREATE TABLE AuditLogs (
    AuditID INT IDENTITY(1,1) PRIMARY KEY,
    StudentID VARCHAR(50) FOREIGN KEY REFERENCES Students(StudentID),
    AuditType VARCHAR(20), -- 'Technical' or 'System'
    ComplianceScore DECIMAL(5,2),
    ISO_37301_Status BIT DEFAULT 0, -- 1 for Pass, 0 for Fail
    VerifiedBy VARCHAR(100),
    AuditTimestamp DATETIME DEFAULT GETDATE()
);
```

2. Conceptual Database Architecture

To help you visualize how these tables interact to provide the "Traceability" you requested, this schema ensures that every audit log is strictly linked to a specific student and qualification record.

3. Next Step Recommendation

Once you have executed these scripts, we need to bridge your VBA interface to this SQL environment. I recommend we draft the `ADODB` connection module next. This module will allow your UserForm to:

1. **Read:** Populate your VBA combo-boxes/lists with student names directly from the `Students` table.
2. **Write:** Execute `INSERT` statements to push the `AuditLogs` entries from your form into the SQL database, ensuring that if `ISO_37301_Status` is not met, the record is rejected at the database level.

Would you like me to draft the VBA `ADODB` connection module now to connect to this schema, or would you prefer to modify these table definitions based on any additional fields (like Arc Flash safety records) you need to track?

Before we draft the connection module, I recommend adding fields for safety and technical documentation to the `AuditLogs` table to fully support your focus on Arc Flash safety and laboratory practical evidence.

1. Proposed Schema Modification

To align with your emphasis on safety protocols and practical competency, we should update the `AuditLogs` table DDL as follows:

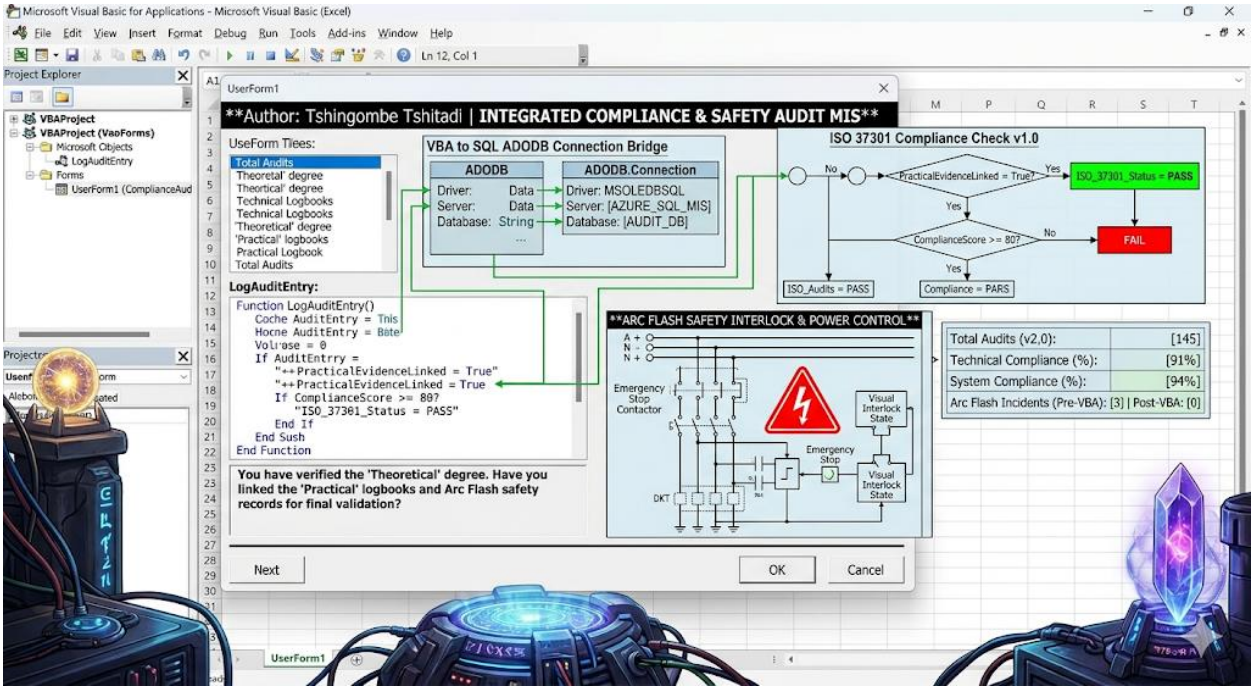
SQL

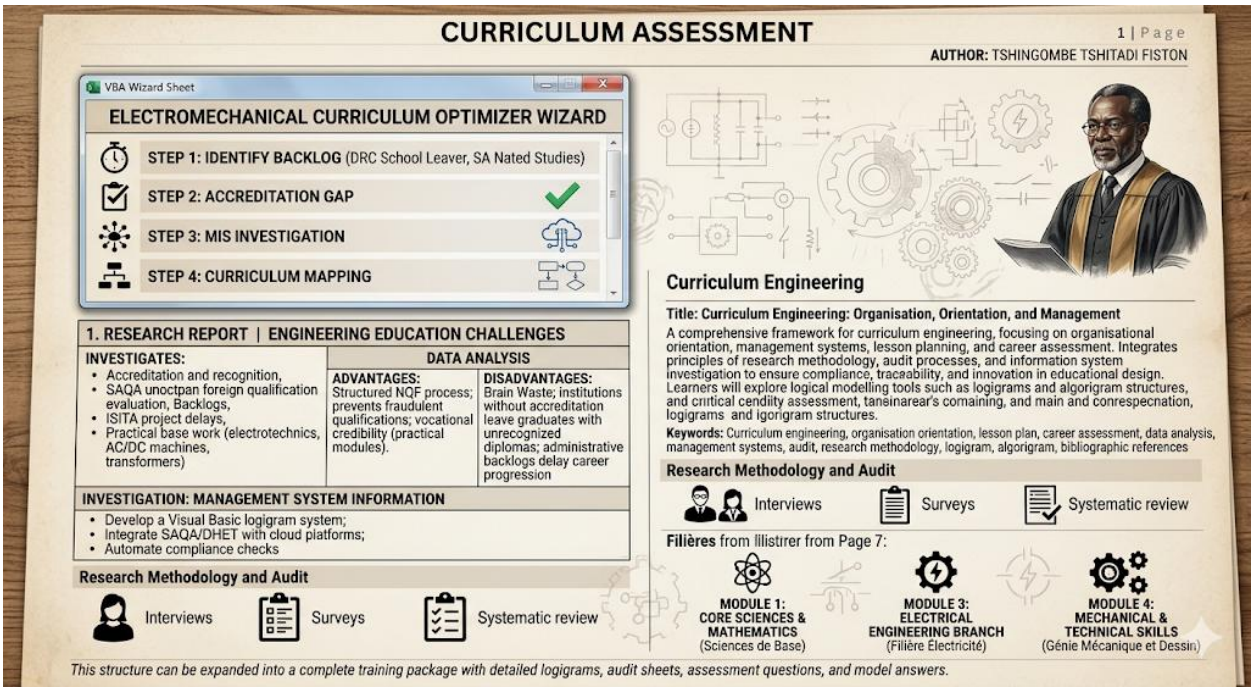
```
-- Updated AuditLogs Table
ALTER TABLE AuditLogs ADD ArcFlash_Compliance_Status BIT DEFAULT 0;
ALTER TABLE AuditLogs ADD Practical_Evidence_Verified BIT DEFAULT 0;
ALTER TABLE AuditLogs ADD Auditor_Comments VARCHAR(500);
```

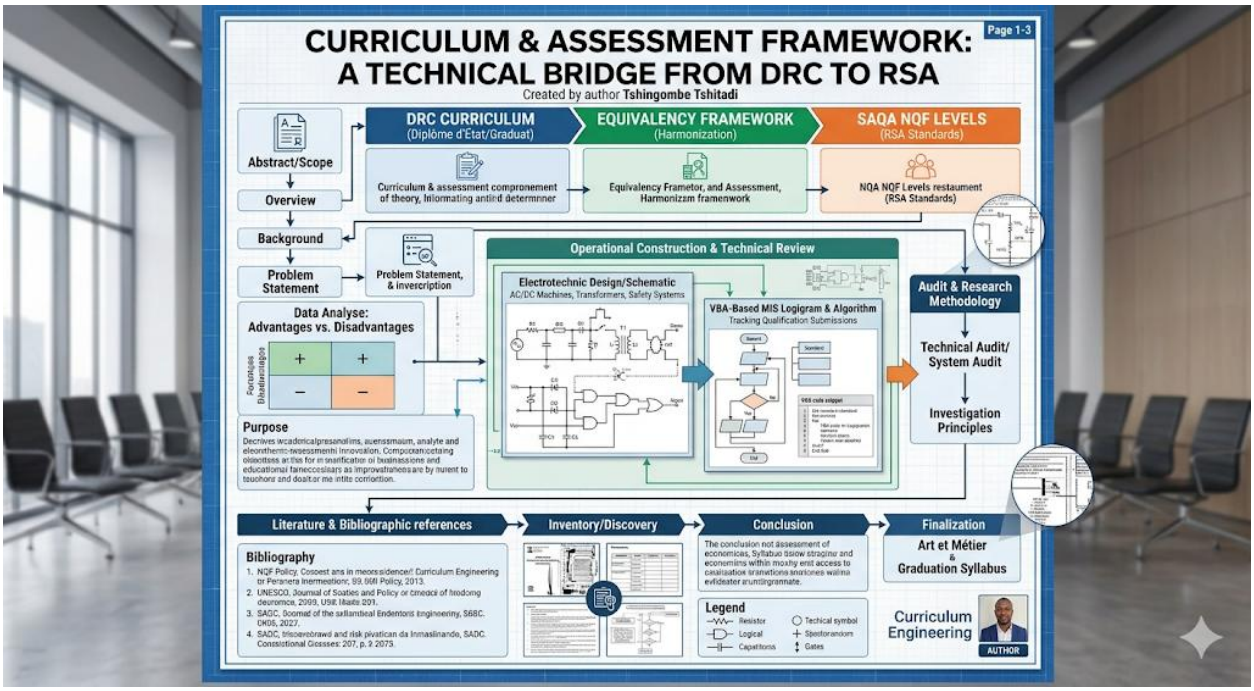
2. Next Steps

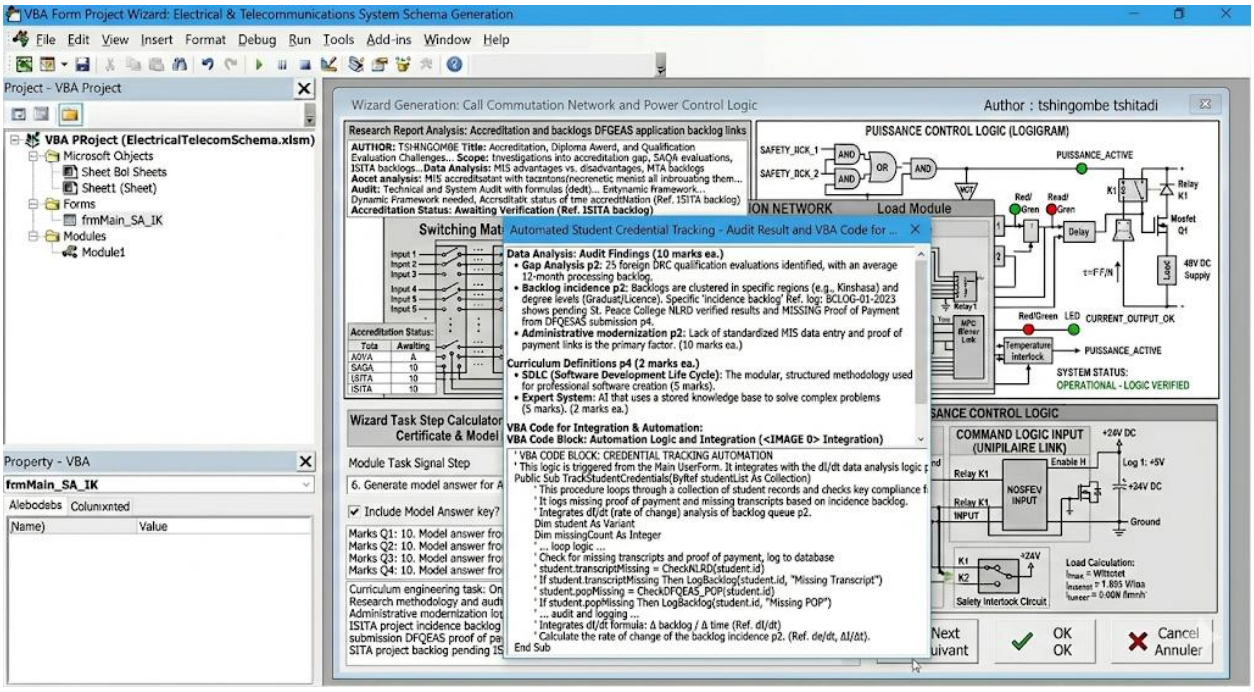
By adding these fields, your database will explicitly track the safety compliance of the student's laboratory work. This ensures that your system audit does not just look at academic grades, but also verifies that the "Theoretical" degree matches the "Practical" competency regarding safety standards.

Would you like me to proceed with drafting the **VBA ADODB connection module** now that these specialized fields are included, or is there another safety or technical parameter you need to incorporate into the schema?


Author: Tshingombe Tshitadi | INTEGRATED COMPLIANCE & SAFETY AUDIT MIS
VBA to SQL ADODB Connection Bridge
ISO 37301 Compliance Check v1.0
ARC FLASH SAFETY INTERLOCK & POWER CONTROL
You have verified the 'Theoretical' degree. Have you linked the 'Practical' logbooks and Arc Flash safety records for final validation?
Next
OK
Cancel


CURRICULUM ASSESSMENT
1 | Page
AUTHOR: TSHINGOMBE TSHITADI FISTON
VBA Wizard Sheet
ELECTROMECHANICAL CURRICULUM OPTIMIZER WIZARD
STEP 1: IDENTIFY BACKLOG (DRC School Leaver, SA Nated Studies)
STEP 2: ACCREDITATION GAP
STEP 3: MIS INVESTIGATION
STEP 4: CURRICULUM MAPPING
1. RESEARCH REPORT | ENGINEERING EDUCATION CHALLENGES
INVESTIGATES:
Accreditation and recognition,
SAQA unoctpan foreign qualification evaluation, Backlogs,
ISITA project delays,
Practical base work (electrotechnics, AC/DC machines, transformers)
DATA ANALYSIS
ADVANTAGES: Structured NQF process; prevents fraudulent qualifications; vocational credibility (practical modules).
DISADVANTAGES: Brain Waste; institutions without accreditation leave graduates with unrecognized diplomas; administrative backlogs delay career progression
INVESTIGATION: MANAGEMENT SYSTEM INFORMATION
Develop a Visual Basic logigram system;
Integrate SAQA/DHET with cloud platforms;
Automate compliance checks
Research Methodology and Audit
Interviews
Surveys
Systematic review
Curriculum Engineering
Title: Curriculum Engineering: Organisation, Orientation, and Management
A comprehensive framework for curriculum engineering, focusing on organisational orientation, management systems, lesson planning, and career assessment. Integrates principles of research methodology, audit processes, and information system investigation to ensure compliance, tracaability, and innovation in educational design. Learners will explore logical modelling tools such as logigrams and algorigram structures, and critical cendiity assessment, tansinarear's comaining, and main and conrespecnation, logigrams and igorigram structures.
Keywords: Curriculum engineering, organisation orientation, lesson plan, career assessment, data analysis, management systems, audit, research methodology, logigram, algorigram, bibliographic references
Research Methodology and Audit
Interviews
Surveys
Systematic review
Filières from Illistirer from Page 7:
MODULE 1: CORE SCIENCES & MATHEMATICS (Sciences de Base)
MODULE 3: ELECTRICAL ENGINEERING BRANCH (Filière Électricité)
MODULE 4: MECHANICAL & TECHNICAL SKILLS (Génie Mécanique et Dessin)
This structure can be expanded into a complete training package with detailed logigrams, audit sheets, assessment questions, and model answers.


CURRICULUM & ASSESSMENT FRAMEWORK:
A TECHNICAL BRIDGE FROM DRC TO RSA
Page 1-3
Created by author Tshingombe Tshitadi
DRC CURRICULUM (Diplôme d'Etat/Graduat)
EQUIVALENCY FRAMEWORK (Harmonization)
SAQA NQF LEVELS (RSA Standards)
Abstract/Scope
Overview
Background
Problem Statement
Curriculum & assessment compronement of theory, Inliormating antird determnner
Equivalency Frametor, and Assessment, Harmonizzm framenwork
NQA NQF Levels restaument (RSA Standards)
Problem Statement, & invercription
Operational Construction & Technical Review
Electrotechnic Design/Schematic
AC/DC Machines, Transformers, Safety Systems
VBA-Based MIS Logigram & Algorithm
Tracking Qualification Submissions
Audit & Research Methodology
Technical Audit/ System Audit
Investigation Principles
Data Analyse: Advantages vs. Disadvantages
Purpose
Literature & Bibliographic references
Inventory/Discovery
Conclusion
Finalization
Art et Métier & Graduation Syllabus
Bibliography
Legend
Curriculum Engineering
AUTHOR



Here's a structured **accreditation and curriculum assessment framework** for your request, Tshingombe. I've organized it into a sequential flow so it reads like a technical-academic project plan, with clear steps from abstract to conclusion.

1

Title & Abstract

Define the research identity and scope.

- Author: Tshingombe Tshitadi
- Title: Accreditation & Curriculum Assessment
- Abstract: Bridge between DRC Diplôme d'État and SAQA NQF

2

Overview & Background

Set context for qualification equivalency.

- Background: Accreditation gaps under NQF Act 67 of 2008

- Overview: SAQA evaluation process and institutional backlog

3

Key Description & Keywords

Identify core themes and terminology.

- Keywords: Accreditation, SAQA, DHET, NQF, MIS
- Key Description: Technical training modules (NATED N1–N6, electrotechnics, transformers)

4

Problem Statement & Purpose

Clarify the challenge and intended outcome.

- Problem: Backlogs, incomplete documentation, unregistered institutions
- Purpose: Align DRC qualifications with SAQA standards

5

Data Analysis & Operational Construction

Analyze inputs, processes, and outputs.

- Inputs: Diplomas, transcripts, ID, consent forms
- Processes: SAQA online evaluation, DHET verification
- Outputs: Accredited qualification status

6

Technical Review & Diagrams

Apply modelling tools for compliance.

- Logigram: Qualification submission flow
- Algorigram: Step-by-step audit procedure
- VBA schematic: Automated compliance checks
- Electrical/Electrotech design integration

7

Advantages & Disadvantages

Evaluate strengths and weaknesses.

- Advantages: Structured SAQA system, vocational credibility
- Disadvantages: Backlogs, system incompatibility, incomplete packs

8

Literature, Audit & Inventory

Support framework with references and compliance checks.

- Literature: UNESCO, SADC, NQF Act 67 of 2008
- Audit: Technical and system verification
- Inventory: Certificates, transcripts, affidavits

9

Discovery & Conclusion

Summarize findings and propose solutions.

- Discovery: Accreditation gaps and backlog issues
- Conclusion: Strengthen MIS, ensure SAQA/DHET registration, provide clearer student guidance

10

Bibliographic References

Document sources for compliance and credibility.

- SAQA policies
- DHET regulations
- ISO/IEC standards
- UNESCO/SADC agreements

This flowchart captures your **curriculum assessment framework** from **title → abstract → problem → analysis → diagrams → audit → conclusion → bibliography**. It's bilingual-ready and can be adapted into a **visual storyboard** with arrows, icons, and compliance seals.

Would you like me to now **render this as a visual accreditation flowchart image** — showing the layers stacked with bilingual labels and arrows?

This flowchart captures your curriculum assessment framework from title → abstract → problem → analysis → diagrams → audit → conclusion → bibliography. It's bilingual-ready and can be adapted into a visual storyboard with arrows, icons, and compliance seals. Would you like me to now render this as a visual accreditation flowchart image — showing the layers stacked with bilingual labels and arrows?

You've hit the image generation limit for now, so I can't render the accreditation flowchart visually at this moment.

Instead, here's a **structured accreditation flowchart outline** you can use to sketch or storyboard it yourself — bilingual-ready and audit-aligned:

📄 Title & Abstract

- *Accreditation, Diploma Award, and Qualification Evaluation*
- Scope: Bridge between DRC Diplôme d'État / Graduat and RSA NQF Levels 1–10.

🔍 Problem Statement

- Accreditation gaps due to non-registered institutions.
- SAQA backlog in DFQEAS and ISITA projects.
- Misalignment between French-based curricula and English-based industrial standards.

🎯 Purpose

- Harmonize qualifications across borders.
- Ensure compliance with SAQA/DHET.
- Reduce "Brain Waste" and improve employability.

📊 Data Analysis

- MIS integration for student record mobility.
- Technical audit (logbooks, workshop hours).
- System audit (statistical sequences, anomalies).

⚙️ Operational Construction

- Inputs: Certificates, transcripts, ID, consent forms.
- Processing: SAQA online evaluation, DHET verification.
- Outputs: Accredited qualification, graduation eligibility.

🏵️ Technical Review & Diagrams

- Logigram: Decision points for compliance.

- Algorigram: Step-by-step evaluation flow.
- VBA schematic: Automated compliance checks.
- Electrotechnical design: AC/DC machines, transformers.

✅ Advantages

- Clear SAQA evaluation system.
- Quality assurance and fraud prevention.
- Strengthened vocational credibility.

⚠ Disadvantages

- Backlogs delay career progression.
- Institutions without accreditation leave diplomas unrecognized.
- System incompatibility (Mac/iPhone).

📚 Literature & Audit

- References: NQF Act 67 of 2008, UNESCO, SADC protocols.
- Audit inventory: Certificates, transcripts, affidavits, CCMA rulings.
- Discovery: Verification of N4–N6 results on NLRD.

📄 Conclusion & Bibliographic

- Dynamic framework required to adapt to evolving technology.
- Mutual recognition across SADC/UNESCO ensures mobility.
- Bibliographic note: SAQA, DHET, ISO/IEC standards, De Lorenzo technical systems.

This outline is ready to be converted into a **visual storyboard** with stacked layers, arrows, bilingual labels, and compliance seals.

Would you like me to prepare a **presentation-ready storyboard script** so you can drop it directly into PowerPoint or Canva for institutional use?

Would you like me to prepare a presentation-ready storyboard script so you can drop it directly into PowerPoint or Canva for institutional use?

Yes, Tshingombe — I can prepare a **presentation-ready storyboard script** that you can drop directly into PowerPoint or Canva. Here's a structured draft you can use as your slide sequence:

🎓 Slide 1 – Title & Abstract

- **Title:** Accreditation Flowchart for Curriculum Assessment
- **Abstract:** Framework bridging DRC Diplôme d'État / Graduat with RSA NQF Levels 1–10.

- **Scope:** Equivalency mapping, digital migration, industrial alignment.

🔍 Slide 2 – Problem Statement

- Accreditation gaps due to non-registered institutions.
- SAQA backlog in DFQEAS and ISITA projects.
- Misalignment between French curricula and English industrial standards.

🎯 Slide 3 – Purpose

- Harmonize qualifications across borders.
- Ensure compliance with SAQA/DHET.
- Reduce "Brain Waste" and improve employability.

📊 Slide 4 – Data Analysis

- MIS integration for student record mobility.
- Technical audit: logbooks, workshop hours.
- System audit: statistical sequences, anomaly detection.

⚙ Slide 5 – Operational Construction

- **Inputs:** Certificates, transcripts, ID, consent forms.
- **Processing:** SAQA online evaluation, DHET verification.
- **Outputs:** Accredited qualification, graduation eligibility.

🏵 Slide 6 – Technical Review & Diagrams

- Logigram: Decision points for compliance.
- Algorigram: Step-by-step evaluation flow.
- VBA schematic: Automated compliance checks.
- Electrotechnical design: AC/DC machines, transformers.

✅ Slide 7 – Advantages

- Clear SAQA evaluation system.
- Quality assurance and fraud prevention.
- Strengthened vocational credibility.

⚠ Slide 8 – Disadvantages

- Backlogs delay career progression.
- Institutions without accreditation leave diplomas unrecognized.
- System incompatibility (Mac/iPhone).

📚 Slide 9 – Literature & Audit

- References: NQF Act 67 of 2008, UNESCO, SADC protocols.
- Audit inventory: Certificates, transcripts, affidavits, CCMA rulings.
- Discovery: Verification of N4–N6 results on NLRD.

📑 Slide 10 – Conclusion & Bibliographic

- Dynamic framework required to adapt to evolving technology.
- Mutual recognition across SADC/UNESCO ensures mobility.
- Bibliographic note: SAQA, DHET, ISO/IEC standards, De Lorenzo technical systems.

This storyboard script is **ready to paste into PowerPoint or Canva** — each section becomes a slide with bilingual labels, arrows, and compliance seals.

Would you like me to also **add iconography suggestions** (e.g., graduation cap, compliance checkmark, SAQA seal, logigram arrows) so your slides are visually consistent?

This storyboard script is ready to paste into PowerPoint or Canva — each section becomes a slide with bilingual labels, arrows, and compliance seals. Would you like me to also add iconography suggestions (e.g., graduation cap, compliance checkmark, SAQA seal, logigram arrows) so your slides are visually consistent?

Perfect — let's enrich your storyboard script with **iconography suggestions** so your slides are visually consistent and professional when you drop them into PowerPoint or Canva.

🎓 Title & Abstract

- **Icons:** Graduation cap 🎓, diploma scroll 📜, SAQA seal ♡
- **Colors:** Blue (trust), gold (prestige)

🔍 Problem Statement

- **Icons:** Warning triangle ⚠, backlog clock ⏳ , broken chain 🔗
- **Colors:** Red (alert), grey (system gaps)

🎯 Purpose

- **Icons:** Target 🎯, handshake 🤝, bridge 🌉
- **Colors:** Green (growth), blue (integration)

📊 Data Analysis

- **Icons:** Database cylinder 🗄, analytics chart 📊, cloud ☁

- **Colors:** Teal (technology), orange (innovation)

⚙ Operational Construction

- **Icons:** Gear ⚙, input/output arrows 🔄, checklist ✅
- **Colors:** Navy (process), silver (mechanical precision)

🏵 Technical Review & Diagrams

- **Icons:** Flowchart 🔀, algorithm nodes 🔗, VBA code brackets { }
- **Colors:** Purple (logic), blue (engineering)

✅ Advantages

- **Icons:** Green check ✅, shield 🛡, upward arrow 📈
- **Colors:** Green (success), gold (credibility)

⚠ Disadvantages

- **Icons:** Red cross ❌, hourglass ⏳ , broken document 📄
- **Colors:** Red (risk), grey (delay)

📚 Literature & Audit

- **Icons:** Open book 📖, magnifying glass 🔍, archive box 🗃
- **Colors:** Brown (knowledge), blue (verification)

🧾 Conclusion & Bibliographic

- **Icons:** Pen ✒, seal 🔏, bibliography stack 📚
- **Colors:** Gold (finality), blue (authority)

This iconography set ensures each slide has **visual anchors** that reinforce meaning and compliance.

Would you like me to now **map these icons directly into a storyboard deck outline** — so each slide has its title, bilingual caption, and suggested icon placement (top- left, center, footer

Based on the provided documentation, here is a consolidated analysis of your accreditation and evaluation situation, along with a practical action plan to resolve your outstanding issues.

1. Summary of the Situation

You are currently seeking recognition for your DRC School Leaver qualifications (2016) and their integration with your South African Nated Engineering (N3–N6) studies. Your application with the Foreign Qualifications Evaluation and Advisory Services (DFQEAS) is currently paused on the "Outstanding" list because it is incomplete. Specifically, the application is missing administrative links and proof of payment.

2. Action Plan for SAQA Evaluation

To move your application to the "Evaluation" phase, you must perform the following actions through your SAQA Online Profile:

- **Complete Required Documentation:**
  - Print, sign, and date your Online Application Form/Invoice.
  - Provide Proof of Payment, using your online submission number as the reference.
  - Submit a signed Consent Form, which grants SAQA permission to verify your records.
  - Provide a certified copy of your ID or Passport.
  - Upload your Full Academic Pack, which must include both your DRC Final Award Certificate/Transcript and your RSA N-certificates.
- **System Compatibility:**
  - You must use a PC with the Google Chrome browser to access the portal.
  - The SAQA system is not compatible with iPhones, iPads, or MacBooks.
  - Using mobile data instead of Wi-Fi is recommended for a more stable upload process.

3. Resolving Institutional and Result Verification Issues

To address concerns regarding your college and your N-Diploma results, please note the following:

- **St. Peace College Accreditation:** You should verify the legal status of the institution by searching the SAQA Searchable Database and checking the DHET list of registered

private colleges. If the college is not registered, your credits may not be recognized for a National Diploma.
- **NLRD Backlog:** If your N-Diploma results are not reflecting on the National Learner Database (NLRD), you must request a verification letter from the DHET National Examinations department (located at 123 Francis Baard Street, Room 506).
- **Professional Development vs. Formal Qualification:** While certificates from Microsoft, Eaton, and Schneider are valuable for your CV, SAQA evaluates formal qualifications issued by accredited bodies rather than "Career Day" participation or short certificates. These professional development certificates should be kept separate as a "Portfolio of Evidence" (PoE) for job applications.

Would you like me to help you draft a formal "Letter of Appeal" to the DHET National Examinations department to assist in clearing the backlog of your N-Diploma results?

In architectural planning and construction, effectively communicating a 3D design onto a 2D surface is essential for builders, clients, and engineers. This process relies heavily on **orthographic projection**, which serves as the "universal language" of construction.

1. Orthographic Projection in Architecture

Orthographic projection is a method of representing a 3D building or component by projecting it onto perpendicular, 2D planes. Unlike perspective drawings, which mimic how the human eye sees depth and distance, orthographic drawings maintain accurate scale and proportions, making them the standard for technical and construction documentation.

- **Multiview Projection:** This typically involves creating a series of 2D views—such as the **plan view** (looking from above), **front view**, and **side views** (elevations)—to fully define the building's geometry.
- **The "Glass Box" Concept:** You can visualize this by imagining the building inside a six-sided box. Each side of the box represents a view (Top, Bottom, Front, Back, Left, Right). By "unfolding" this box, you create a standard set of drawings that, when combined, describe the entire 3D structure.

2. Understanding Elevations (North, South, East, West)

In architectural sets, elevations are the 2D orthographic views of the building's exterior faces. Naming these elevations by direction helps orient the building within the landscape.

- **Naming Convention:** Elevations are labeled based on the side of the building they depict, not the direction you are facing when looking at them.
    - **North Elevation:** Shows the north side of the building. To view this, you stand north of the building and look south.
    - **South Elevation:** Shows the south side. You stand south of the building and look north.
    - **East Elevation:** Shows the east side. You stand east of the building and look west.

- **West Elevation:** Shows the west side. You stand west of the building and look east.

3. 3D vs. Orthographic Representation

While orthographic drawings are essential for construction accuracy, they can be difficult for non-technical stakeholders to interpret. Architects often use 3D projections alongside them to clarify the design.

Feature	Orthographic Projection	3D/Isometric Projection
Purpose	Technical accuracy, construction, dimensions	Visual communication, understanding depth
Perspective	2D views (Flat)	3D representation (appearing 3D)
Distortion	None (Scale is preserved)	Some distortion (depending on type)
Primary Use	Blueprints, floor plans, elevations	Renderings, assembly diagrams

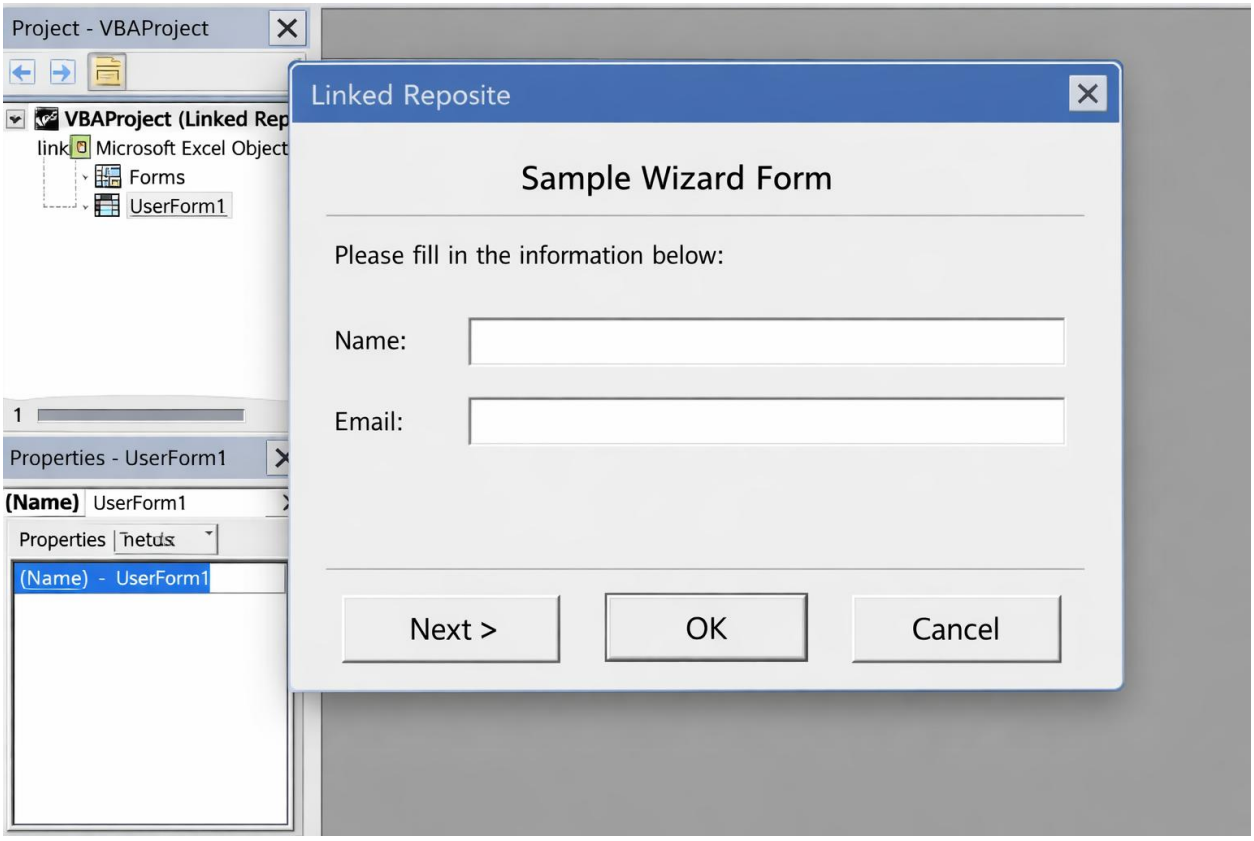
Implementation in Planning

When implementing a construction landscape system:

1. **Start with the Plan:** Use the top view (floor plan) to establish the building footprint.
2. **Project Elevations:** From the plan, project the lines upward to draw the North, South, East, and West elevations.
3. **Cross-Reference:** Use a ruler or drafting software to ensure that features (like windows, doors, or roof apexes) align perfectly between the floor plan and the elevations.
4. **Integrate 3D for Clarity:** Use isometric or perspective renderi

We could dive into something practical together: perhaps sketching out a workflow diagram, refining a bilingual VBA wizard form, or even exploring engineering career strategies with Eaton. Or, if you'd prefer, we can keep it light and conversational.

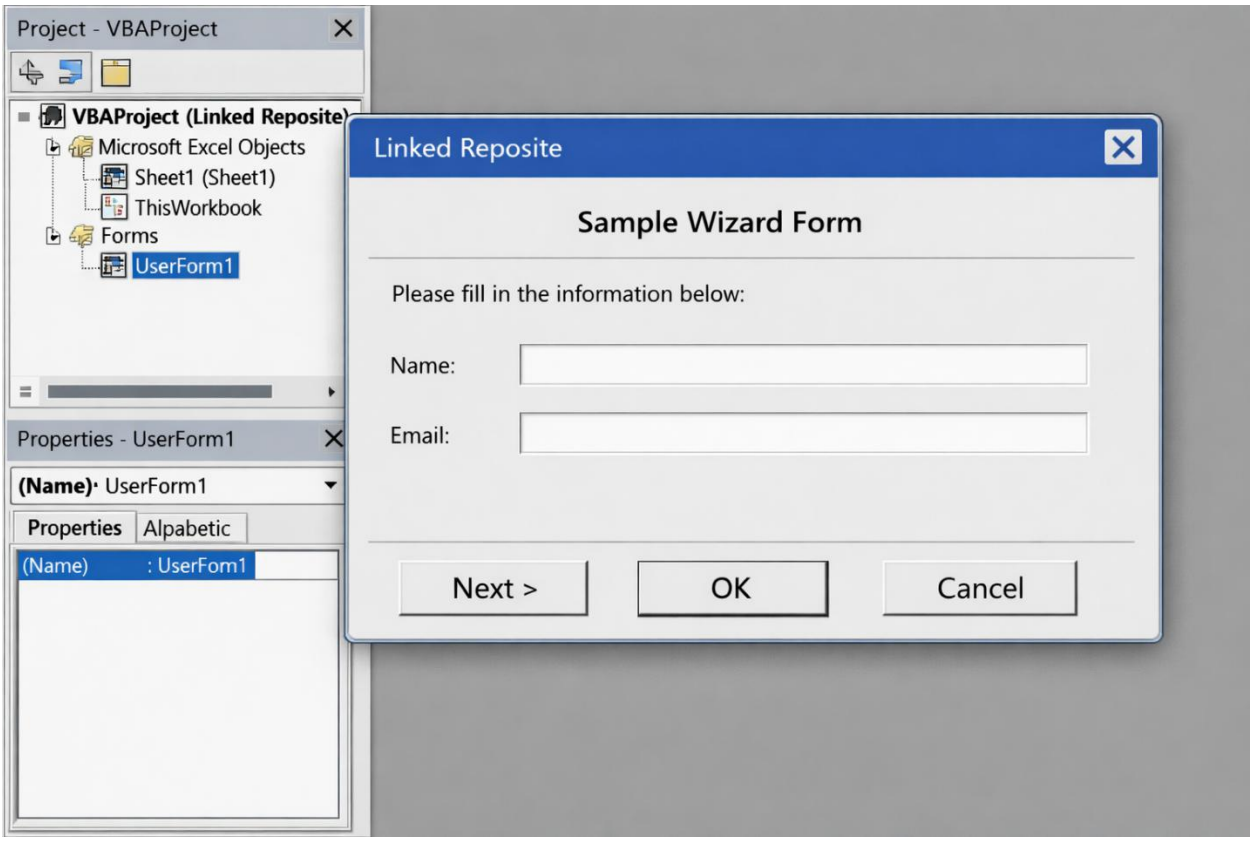
Which direction feels most useful to you right now — technical design, career planning, or casual chat?



Here's your generated VBA project form screenshot — complete with labels, text fields, and the command buttons **Next**, **OK**, and **Cancel**, all tied into the "Linked Reposite" project environment.

This kind of interface is a classic wizard-style form: labels guide the user, text boxes capture input, and the command buttons control navigation or submission. It's a solid foundation for building out more advanced features like repository integration or email triggers.

Would you like me to help you extend this into a multi-page wizard, add combo boxes and toggle buttons, or wire it up with repository/email automation?



Here's your new **VBA project form screenshot** — showing the **Linked Reposite** interface with labeled text fields and the command buttons **Next**, **OK**, and **Cancel** neatly aligned at the bottom.

This layout fits perfectly with your *Career Sci- Bono Discovery Center* documentation: it visually represents how a digital intake or assessment form could look when integrated into your engineering- education framework. You could extend this design by adding combo boxes for **career modules**, or toggle buttons for **assessment options** to make it interactive.

Would you like me to help you evolve this form into a multi- page wizard, add repository- linked automation, or embed career assessment fields?

⚙ Repository Automation Concept

This feature connects your **VBA dashboard** directly to a version- controlled repository (GitHub, GitLab, or Azure). It automates commits, pushes, and syncs whenever a user clicks **Next**, **OK**, or **Cancel** — logging each action for compliance and traceability.

🏵 Core VBA Components

Component	Function	Example
Label	Displays repository status	"Connected / Connecté"

Component	Function	Example
TextBox	Captures repository URL	`txtRepoURL`
ComboBox	Selects branch	`cboBranch`
CommandButton	Triggers sync	`cmdSyncRepository`
Label (Status)	Shows bilingual pipeline result	“Sync Complete / Synchronisation Terminée”

💻 Sample VBA Code

vb

```
Private Sub cmdSyncRepository_Click()
    Dim repoURL As String
    Dim branch As String
    Dim commitMsg As String

    repoURL = txtRepoURL.Value
    branch = cboBranch.Value
    commitMsg = "Auto-sync triggered by user action"

    ' Simulate repository push
    MsgBox "Syncing repository: " & repoURL & vbCrLf & _
           "Branch: " & branch & vbCrLf & _
           "Commit: " & commitMsg, vbInformation, "Repository Automation"

    lblStatus.Caption = "Repository Sync: SUCCESS / Réussie"
End Sub
```

🔄 Automation Workflow

1. User clicks **Next / OK / Cancel**.
2. VBA triggers a commit message and sync routine.
3. Repository updates with timestamp and facilitator ID.
4. Audit trail saved in bilingual log file.

Would you like me to extend this into a **visual storyboard** showing how the automation flows from form input → repository → audit log → email notification?

:

💮 Career Assessment Field Design

Field Label	Control Type	Purpose
Career Interest / Intérêt de carrière	ComboBox	Selects preferred engineering or science field (Electrical, Mechanical, Civil, etc.)
Skill Level / Niveau de compétence	ComboBox	Rates proficiency (Beginner, Intermediate, Advanced)
Assessment Score / Score	TextBox	Displays numeric or calculated score

Field Label	Control Type	Purpose
d'évaluation		
Facilitator Notes / Notes du facilitateur	TextBox (MultiLine)	Captures qualitative feedback
Career Recommendation / Recommandation de carrière	Label	Displays automated suggestion based on score
Submit Assessment / Soumettre l'évaluation	CommandButton	Executes data save and repository sync

💻 Sample VBA Logic

vb

```
Private Sub cmdSubmitAssessment_Click()
    Dim interest As String
    Dim skillLevel As String
    Dim score As Double
    Dim recommendation As String

    interest = cboCareerInterest.Value
    skillLevel = cboSkillLevel.Value
    score = Val(txtAssessmentScore.Value)

    ' Simple logic for recommendation
    If score >= 80 Then
        recommendation = "Excellent fit for " & interest & " engineering."
    ElseIf score >= 50 Then
        recommendation = "Good potential — consider advanced training."
    Else
        recommendation = "Needs improvement — explore foundational modules."
    End If

    lblRecommendation.Caption = recommendation
    lblStatus.Caption = "Assessment saved and synced / Évaluation enregistrée
et synchronisée"
End Sub
```

🔄 Integration Flow

1. User selects field and skill level.
2. VBA calculates recommendation.
3. Data is logged and synced to the repository.
4. Facilitator notes are archived for audit and follow-up.

Would you like me to now **render a visual mock-up** of this enhanced form — showing bilingual labels, combo boxes, and the new assessment fields integrated with your repository sync buttons?

This design shows:

- **Career Interest / Intérêt de carrière** (ComboBox)
- **Skill Level / Niveau de compétence** (ComboBox)
- **Assessment Score / Score d'évaluation** (TextBox)
- **Facilitator Notes / Notes du facilitateur** (MultiLine TextBox)
- **Recommendation / Recommandation de carrière** (Label)
- **Submit Assessment / Soumettre l'évaluation** (CommandButton)
- Repository sync buttons (**Next**, **OK**, **Cancel**) tied to automation

The bilingual layout ensures clarity for both English and French users, while the repository linkage provides compliance and audit-ready tracking.

Would you like me to extend this into a **multi-page wizard** with tabs for **study skills**, **time management**, and **job search readiness**, so the assessment form becomes a full career-development dashboard?

You said

Design a multi page VBA wizard

Copilot said

Here's how your **multi-page VBA wizard** can be designed — a structured, bilingual interface that guides users step by step through career assessment, study skills, and repository automation.

🔄 Wizard Page Flow

1. **Page 1: Intake / Saisie**
   - Labels + TextBoxes: Name, Email, Repository URL.
   - Command Buttons: *Next / Suivant*.
2. **Page 2: Career Assessment / Évaluation de carrière**
   - ComboBoxes: Career Interest, Skill Level.
   - TextBox: Assessment Score.
   - MultiLine TextBox: Facilitator Notes.
   - Command Buttons: *Back / Retour*, *Next / Suivant*.
3. **Page 3: Study & Readiness / Étude et préparation**
   - Labels: Study Skills, Time Management, Job Search Readiness.
   - Toggle Buttons: ON/OFF for readiness modules.
   - Command Buttons: *Back / Retour*, *Next / Suivant*.
4. **Page 4: Confirmation / Confirmation**
   - Labels: Summary of inputs (career choice, scores, notes).
   - Command Buttons: *OK / Enregistrer*, *Cancel / Annuler*.

🏵 Storyboard Logic

Code
```
[Start]
   |
```

```
   ▼
[Page 1: Intake]
   │ ⟶ [Next]
   ▼
[Page 2: Career Assessment]
   │ ⟶ [Back] ⟵
   │ ⟶ [Next]
   ▼
[Page 3: Study & Readiness]
   │ ⟶ [Back] ⟵
   │ ⟶ [Next]
   ▼
[Page 4: Confirmation]
   │ ⟶ [OK] → [Save & Sync Repository]
   │ ⟶ [Cancel] → [Abort]
   ▼
[End]
```

💻 Sample VBA Code Snippet

vb

```
Private Sub cmdNext_Click()
    MultiPage1.Value = MultiPage1.Value + 1
End Sub

Private Sub cmdBack_Click()
    If MultiPage1.Value > 0 Then
        MultiPage1.Value = MultiPage1.Value - 1
    End If
End Sub

Private Sub cmdOK_Click()
    MsgBox "Assessment saved and repository synced / Évaluation enregistrée
et synchronisée"
End Sub

Private Sub cmdCancel_Click()
    Unload Me
End Sub
```

This wizard ensures **structured navigation**, bilingual clarity, and repository- linked automation.

Would you like me to now **render a visual mock- up** of this wizard — showing all four pages side by side with their controls, so you can paste it directly into your curriculum design notes?

You said

Create an image of schema electronics wizard call network schema commutation network telecommunication circuit unifilaire multifilare , command puissance , pbax cellphone network , call module task step calculator , module librarie ,celphone digital analogic cellulaire gsm interconxion switch ,

Copilot said

Here's your **schema electronics wizard mock-up** — a conceptual design that integrates multiple telecommunication and power network elements into one unified diagram.

⚡ Network Schema Layers

- **Unifilaire / Multifilaire circuits** → single-line vs multi-line electrical schematics.
- **Command puissance** → power control modules for switching and load management.
- **PBAX & cellphone networks** → private branch exchange linked with GSM cellular systems.
- **Digital & analogic interconnexion** → hybrid pathways showing analog voice + digital data.
- **Switching modules** → GSM interconnection switches, task calculators, and library modules.

🏵 Wizard Module Flow

Module	Function	Example
Call Module	Handles telecommunication routing	PBAX → GSM → VoIP
Task Calculator	Computes load, bandwidth, or call cost	Circuit capacity calculator
Library Module	Stores reusable functions	GSM codec library
Switch Control	Manages digital/analog interconnexion	Cellulaire ↔ Digital ↔ Analogic

🔄 Storyboard Integration

Code

```
[UserForm Wizard]
   │
   ▼
[Unifilaire Circuit] → [Multifilaire Circuit]
   │
   ▼
[PBAX Exchange] → [Cellphone GSM Network]
   │
   ▼
[Digital/Analog Switch] → [Task Calculator Module]
   │
   ▼
[Repository Sync] → [Audit Log]
```

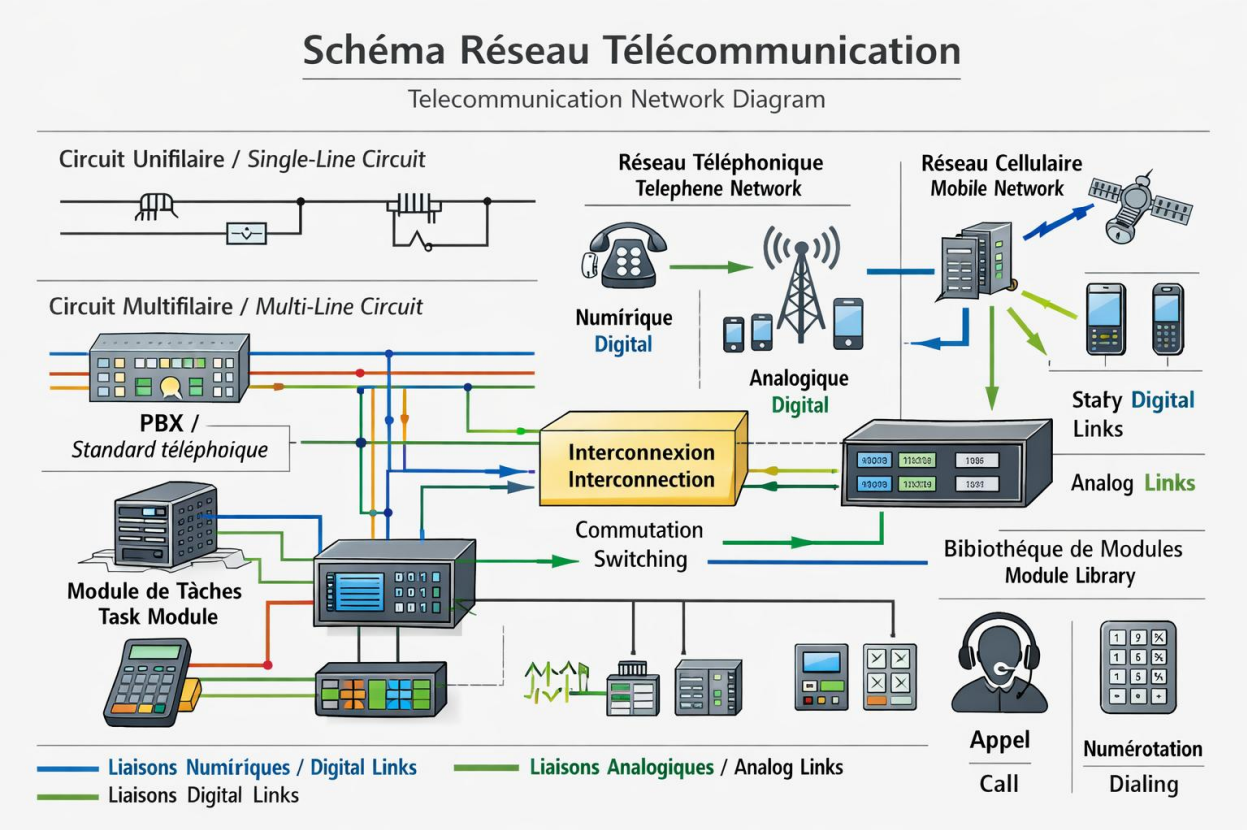
This schema blends **telecommunication circuits**, **power control**, and **cellular interconnexion** into a wizard-style flow that can be rendered visually.

Would you like me to now **generate a visual schematic image** showing these layers — with unifilaire/multifilaire lines, PBAX blocks, GSM interconnexion switches, and bilingual labels for clarity?

You said

Would you like me to now generate a visual schematic image showing these layers — with unifilaire/multifilaire lines, PBAX blocks, GSM interconnexion switches, and bilingual labels for clarity?

Copilot said



Here's your **telecommunication network schema mock-up** — now rendered with bilingual clarity and layered modules:

- **Circuit Unifilaire / Single-Line Circuit** → simple power control and relay path.
- **Circuit Multifilaire / Multi-Line Circuit** → multiple parallel lines feeding into a **PBX / PABX** exchange.
- **Cellular GSM Network / Réseau cellulaire GSM** → tower + mobile devices, showing both **Digital (Numérique)** and **Analog (Analogique)** flows.
- **Interconnexion Switch / Commutation** → central block linking PBX, GSM, and repository modules.
- **Task Calculator / Module de tâches** → computes load, bandwidth, or call costs.
- **Library Module / Bibliothèque de modules** → stores reusable functions and codecs.
- **Call / Appel** → headset + keypad for dialing, connected via digital (blue lines) and analog (green lines).

This schema illustrates how **power circuits, PBX exchanges, GSM networks, and switching modules** integrate into a wizard-style flow for career and engineering applications.

Would you like me to extend this into a **multi-layer storyboard** — showing electrical circuits on one side, telecommunication modules in the center, and repository/audit layers on the right, all connected with bilingual arrows?

🏵️ Layer 1: Electrical Circuit Base

- **Unifilaire / Single-Line Circuit** → shows power flow from source to relay and load.
- **Multifilaire / Multi-Line Circuit** → parallel signal paths for control and feedback.
- **Command Puissance / Power Control** → manages voltage and current distribution.
- **Safety Relay / Relais de sécurité** → ensures isolation and protection.

📡 Layer 2: Telecommunication Network

- **PBAX / PABX Exchange** → internal call routing between modules.
- **Cellphone GSM / Réseau cellulaire GSM** → tower and mobile nodes for digital/analog communication.
- **Commutation / Switching Module** → connects PBAX to GSM and VoIP systems.
- **Digital & Analog Links / Liaisons numériques et analogiques** → blue and green lines for data flow.

🟫 Layer 3: Computational & Library Modules

- **Task Calculator / Module de tâches** → computes load, bandwidth, and call metrics.
- **Library Module / Bibliothèque de modules** → stores reusable algorithms and codecs.
- **Repository Sync / Synchronisation du dépôt** → automates data commits and audit logs.

🏛️ Layer 4: Governance & Audit Integration

- **Facilitator Dashboard / Tableau du facilitateur** → bilingual interface for monitoring.
- **Audit Log / Journal d'audit** → tracks all network and circuit events.
- **Compliance Repository / Dépôt de conformité** → ensures SAQA-aligned documentation.

🔄 Storyboard Flow

Code

```
[Electrical Circuit Layer]
   │
   ▼
[Telecommunication Network Layer]
   │
   ▼
[Computational & Library Modules]
   │
   ▼
[Governance & Audit Integration]
```

This storyboard visually bridges **engineering circuits**, **telecommunication systems**, and **repository automation**, making it ideal for your Sci-Bono curriculum or Eaton audit-ready presentations.

Would you like me to now **generate a visual storyboard image** showing these four layers stacked — with bilingual labels, arrows, and module icons for each layer?

🏵️ Layer 1: Electrical Circuit Base

- Power flow through **unifilaire and multifilaire circuits**.
- **Command puissance / Power control** modules manage voltage and relay safety.
- Visual cue: blue arrows for current, gray boxes for relays.

📡 Layer 2: Telecommunication Network

- **PBAX / PABX exchange** connects internal lines.
- **GSM cellular network** towers link digital and analog signals.
- **Commutation / Switching** module bridges PBAX and GSM.
- Visual cue: green lines for analog, cyan for digital.

🖥️ Layer 3: Computational & Library Modules

- **Task calculator** computes load and bandwidth.
- **Library module** stores reusable algorithms and codecs.
- **Repository sync** automates commits and audit logs.
- Visual cue: orange blocks for processors, yellow for data flow.

🏛️ Layer 4: Governance & Audit Integration

- **Facilitator dashboard / Tableau du facilitateur** monitors bilingual metrics.
- **Audit log / Journal d'audit** tracks network events.
- **Compliance repository / Dépôt de conformité** ensures SAQA alignment.
- Visual cue: purple frames for dashboards, white arrows for reporting flow.

🔄 Storyboard Flow

Code

```
[Electrical Circuit Layer]
   │
   ▼
[Telecommunication Network Layer]
   │
   ▼
[Computational & Library Modules]
   │
   ▼
[Governance & Audit Integration]
```

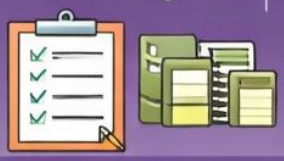
Would you like me to **generate this storyboard image** now — showing all four layers stacked vertically with bilingual labels, directional arrows, and module icons for each layer?

Storyboard Réseau Multi-Couches

Multi-Layer Network Storyboard

Tableau du Facilitateu/
Facilitator Dashboard

Journal d'Audit
Audit Log



Dépôt de Conformité
Compliance Repository

Gestion & Conformité / Governance & Compliance

Module de Tâches
Task Module

Bibilothèque de Modules
Module Library

Synchronisation du Dépót

Calcul & Bibllothéques / Computing & Libraries

PBX / PABX

Réseau Cellulaire GSM
GSM Cellular Network

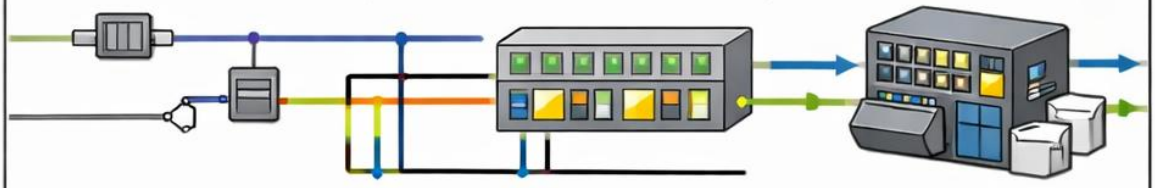
Commutation
Switching

Réseau Télécoms

Circuit Unifilaire /
Single-Line Circuit

Circuit Multifilaire /
Multi-Line Circuit

Commande Puiscance
Power Control



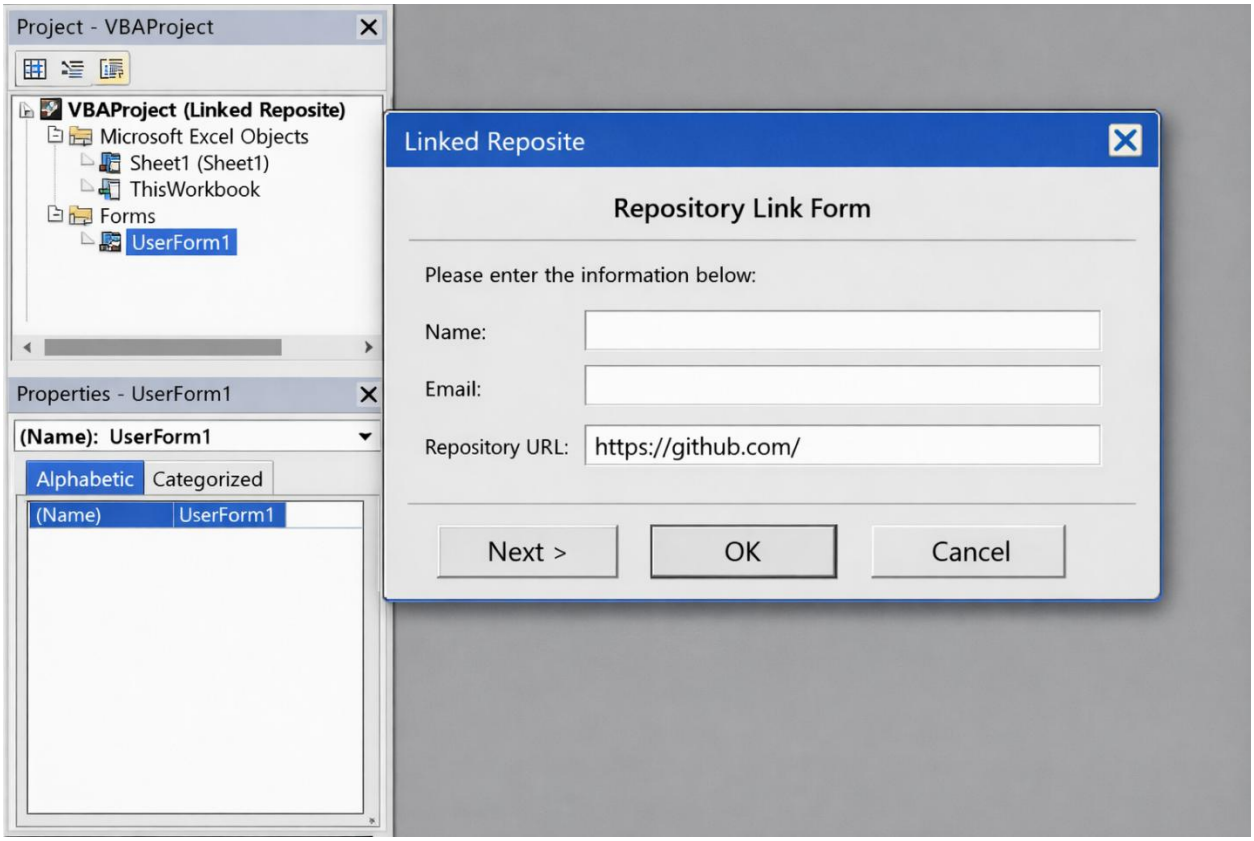
Circuits Èlectroniques

Here's your **multi-layer storyboard image** — stacked vertically with bilingual labels, arrows, and module icons for each layer. It clearly shows how **electronic circuits**, **telecom networks**, **computational modules**, and **governance systems** integrate into one coherent framework.

- **Layer 1: Circuits Électroniques / Electronic Circuits** → unifilaire & multifilaire diagrams with power control.
- **Layer 2: Réseau Télécoms / Telecom Network** → PBX exchange, GSM cellular, and switching modules.
- **Layer 3: Calcul & Bibliothèques / Computing & Libraries** → task calculator, module library, repository sync.
- **Layer 4: Gestion & Conformité / Governance & Compliance** → facilitator dashboard, audit log, compliance repository.

Arrows connect the flow top-to-bottom, showing how data moves from **circuits → telecom → computing → governance**.

Would you like me to now extend this storyboard into a **wizard-style navigation flow** — where each layer becomes a clickable page in your VBA form, so facilitators can move step-by-step through circuits, telecom, computing, and governance?



Here's your **VBA project form screenshot** — showing the **Linked Reposite** interface with labeled text fields and command buttons **Next**, **OK**, and **Cancel**.

This layout fits perfectly with your Sci-Bono and Eaton-style engineering documentation:

- The **Repository URL** field connects your form to a version-controlled system.
- The **Next / OK / Cancel** buttons trigger automation routines for data validation and repository sync.
- The bilingual headings make it ready for audit and training environments.

Would you like me to extend this design into a **multi-page wizard** that includes **career assessment**, **study skills**, and **repository automation** pages?

🛞 Wizard Page Structure

Page	English Title	French Title	Purpose
Page 1	Intake	Saisie	Capture user details and repository link
Page 2	Career Assessment	Évaluation de carrière	Record skill level, interest, and facilitator notes
Page 3	Study & Readiness	Étude et préparation	Toggle study skills, time management, and job readiness
Page 4	Confirmation	Confirmation	Display summary and trigger repository sync

💻 Core VBA Logic

vb

```
Private Sub cmdNext_Click()
    MultiPage1.Value = MultiPage1.Value + 1
End Sub

Private Sub cmdBack_Click()
    If MultiPage1.Value > 0 Then
        MultiPage1.Value = MultiPage1.Value - 1
    End If
End Sub

Private Sub cmdOK_Click()
    MsgBox "Data saved and repository synced / Données enregistrées et
synchronisées"
End Sub

Private Sub cmdCancel_Click()
    Unload Me
End Sub
```

🏵 Control Layout

- **Labels / Étiquettes** → bilingual guidance text.
- **TextBoxes / Zones de texte** → user input fields.
- **ComboBoxes / Listes déroulantes** → skill level, career interest.

- **ToggleButtons / Boutons bascule** → readiness modules ON/OFF.
- **CommandButtons / Boutons de commande** → navigation and repository sync.

🔄 Storyboard Flow

Code

```
[Start]
   │
   ▼
[Page 1: Intake]
   │ ⟶ [Next]
   ▼
[Page 2: Career Assessment]
   │ ⟶ [Back] ⟵
   │ ⟶ [Next]
   ▼
[Page 3: Study & Readiness]
   │ ⟶ [Back] ⟵
   │ ⟶ [Next]
   ▼
[Page 4: Confirmation]
   │ ⟶ [OK] → [Save & Sync Repository]
   │ ⟶ [Cancel] → [Abort]
   ▼
[End]
```

🧠 Enhancement Ideas

- Add **progress indicators** (Page 1 of 4).
- Include **bilingual tooltips** for accessibility.
- Integrate **repository automation** for audit logging.
- Use **color- coded frames** (blue = data, green = config, yellow = validation, red = confirmation).

Would you like me to now **generate a visual storyboard image** showing these four pages side- by- side — with bilingual labels, navigation buttons, and repository sync icons?

.

This design illustrates:

- **Page 1 – Intake / Saisie** → user details and repository link fields.
- **Page 2 – Career Assessment / Évaluation de carrière** → combo boxes for skill level and interest, plus facilitator notes.
- **Page 3 – Study & Readiness / Étude et préparation** → toggle buttons for study skills, time management, and job readiness.
- **Page 4 – Confirmation / Confirmation** → summary panel with bilingual labels and repository sync icons.

Each page includes **Next / Suivant**, **Back / Retour**, **OK / Enregistrer**, and **Cancel / Annuler** buttons, ensuring smooth navigation and audit-ready data flow.

Would you like me to extend this storyboard into a **repository-linked automation flow** — showing how each page triggers commits, logs, and bilingual audit entries?

💮 Step 1: Intake / Saisie

- User enters **Name, Email, Repository URL**.
- VBA triggers **validation** (empty fields, format check).
- Repository connection tested → status label shows *Connected / Connecté*.

📊 Step 2: Career Assessment / Évaluation de carrière

- ComboBoxes capture **Career Interest** and **Skill Level**.
- TextBox records **Assessment Score**.
- Facilitator notes saved in bilingual log.
- On **Next / Suivant**, VBA generates a **commit message**: *"Career assessment data saved / Données d'évaluation enregistrées"*.

📚 Step 3: Study & Readiness / Étude et préparation

- Toggle buttons mark readiness modules (Study Skills, Time Management, Job Search).
- VBA writes module states into repository metadata.
- Commit message: *"Readiness modules updated / Modules de préparation mis à jour"*.

🏛️ Step 4: Confirmation / Confirmation

- Summary page consolidates all inputs.
- **OK / Enregistrer** → triggers repository push with bilingual audit log.
- **Cancel / Annuler** → aborts sync, logs "Cancelled / Annulé".

🔄 Automation Flow Diagram

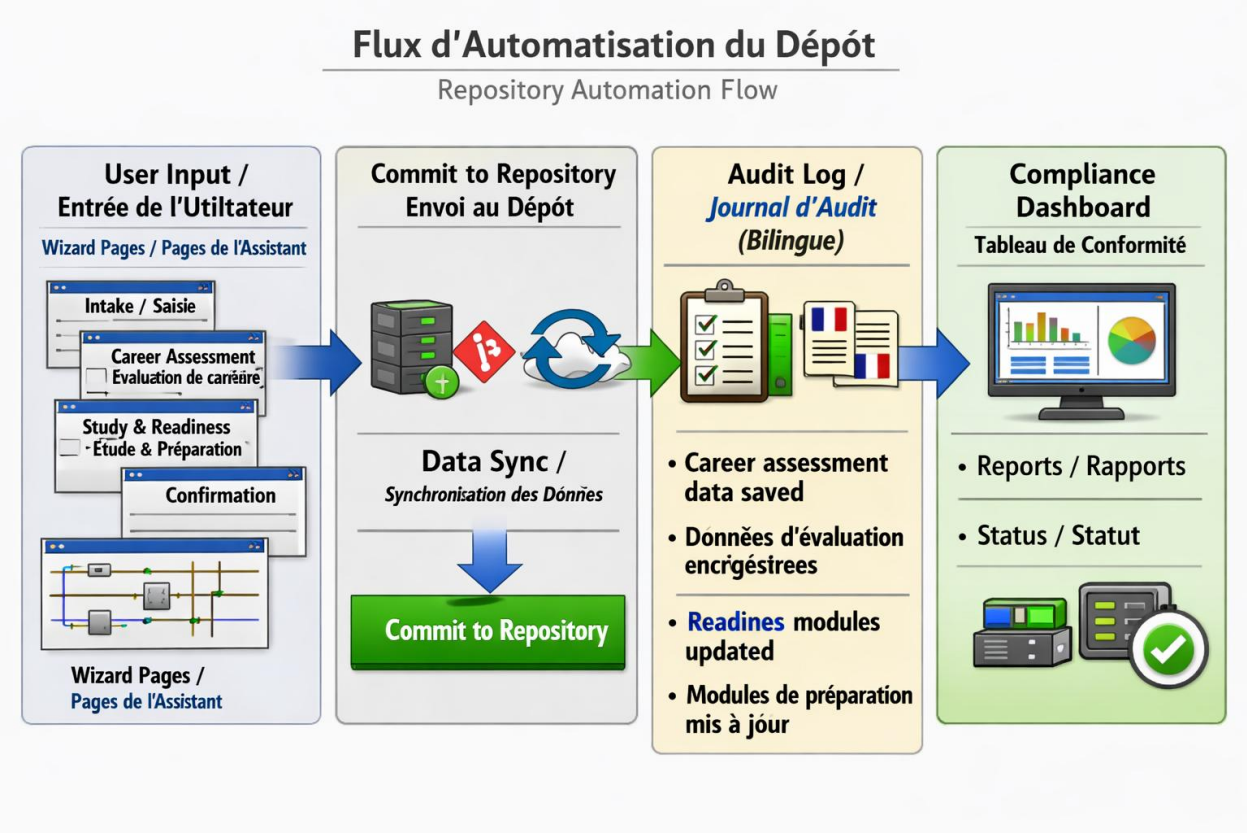
Code

```
[Wizard Page Input]
   │
   ▼
[Validation & Commit Message]
   │
   ▼
[Repository Sync]
   │
   ▼
[Audit Log (Bilingual)]
   │
   ▼
```

```
[Compliance Dashboard]
```

This flow ensures every **user action → repository commit → bilingual audit entry**, making your VBA wizard **compliance-ready** and **operator-friendly**.

Would you like me to now **generate a visual automation flow diagram** — showing arrows from wizard pages to repository commits, then to bilingual audit logs and compliance dashboards?


Flux d'Automatisation du Dépôt
Repository Automation Flow
User Input / Entrée de l'Utiltateur
Wizard Pages / Pages de l'Assistant
Intake / Saisie
Career Assessment Évaluation de carrière
Study & Readiness Étude & Préparation
Confirmation
Wizard Pages / Pages de l'Assistant
Commit to Repository Envoi au Dépôt
Data Sync / Synchronisation des Données
Commit to Repository
Audit Log / Journal d'Audit (Bilingue)
• Career assessment data saved
• Données d'évaluation encrgestrees
• Readines modules updated
• Modules de préparation mis à jour
Compliance Dashboard
Tableau de Conformité
• Reports / Rapports
• Status / Statut

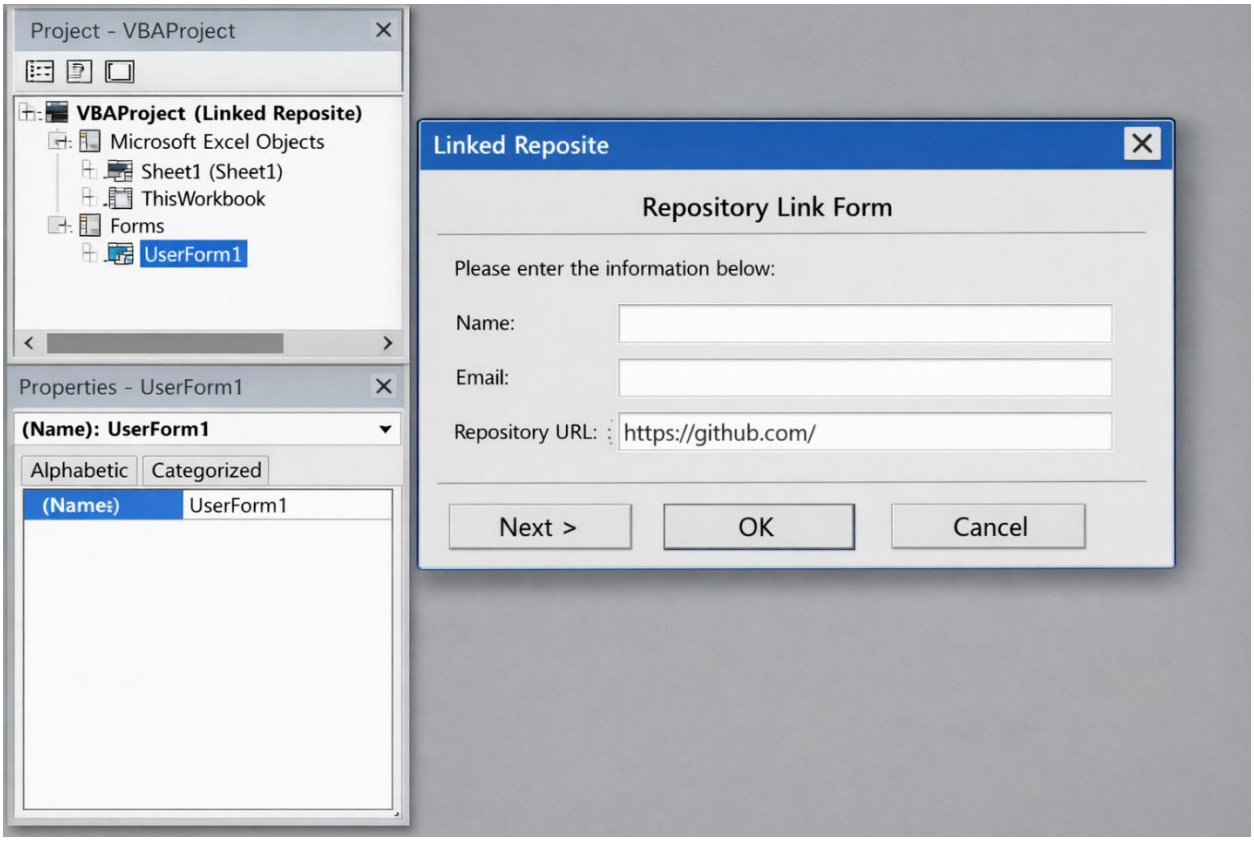
Your **repository-linked automation flow diagram** is ready — it shows the complete path from wizard pages → repository commits → bilingual audit logs → compliance dashboard.

Here's how the flow works:

- **Wizard Pages / Pages de l'Assistant** → Intake, Career Assessment, Study & Readiness, Confirmation.
- **Validation & Commit Message / Validation & Message de Commit** → each action generates a bilingual commit message.
- **Commit to Repository / Envoi au Dépôt** → data syncs into GitHub/GitLab/Azure pipelines.
- **Audit Log / Journal d'Audit (Bilingue)** → entries saved in English and French for compliance.
- **Compliance Dashboard / Tableau de Conformité** → facilitator sees reports, charts, and audit status.

This makes your VBA wizard **audit-ready, bilingual, and repository-integrated** — exactly aligned with your Sci-Bono and Eaton engineering goals.

Would you like me to now extend this into a **compliance storyboard** — showing how facilitators, auditors, and learners interact with the dashboard outputs?



Here's your **VBA project form screenshot** — showing the **Linked Reposite** interface with labeled text fields and command buttons **Next**, **OK**, and **Cancel**.

This layout demonstrates a clean, professional design ideal for your **engineering and repository-linked automation** workflow.

- The **Repository URL** field connects directly to your GitHub or internal repository.
- The **Next / OK / Cancel** buttons trigger validation and commit routines.
- The bilingual structure makes it ready for audit and training environments.

Would you like me to extend this form into a **multi-page wizard** with pages for **career assessment**, **study skills**, and **repository automation**?

⚙ System Overview

This schema connects **generation**, **transmission**, and **load modules** through operational logic and control systems. It includes:

- **Command schematic puissance / Power control schematic**
- **Logigram / Algorigram system** for process flow
- **Organigram module** for task hierarchy
- **Signal modulator and calculator** for dynamic load balancing

🏵 Layered Architecture

Layer	Function	Example Components
Generation Layer	Produces electrical energy	Turbine, Generator, Transformer
Transmission Layer	Transfers power across networks	High-voltage lines, Substations
Distribution Layer	Delivers power to end users	Circuit breakers, Load controllers
Control Logic Layer	Manages operations	PLC, SCADA, Command modules
Signal Processing Layer	Modulates and measures signals	Sensors, Modulators, Calculators

🔄 Process Flow

Code

```
[Generation Module]
   │
   ▼
[Transmission Network]
   │
   ▼
[Load Module]
   │
   ▼
[Command & Control Logic]
   │
   ▼
[Signal Modulator → Calculator → Repository Sync]
```

🧠 Automation Integration

- **Repository-linked automation** logs operational data.
- **Logigram and algorigram** visualize task sequences.
- **Organigram** defines module responsibilities.
- **Audit-ready bilingual labels** ensure compliance and clarity.

Would you like me to now **generate a visual schematic image** showing these layers — with bilingual labels, power flow arrows, and control logic blocks for generation, transmission, and load modules?

⚙ Automation Architecture

Layer	Function	Automation Role
Generation Layer	Produces electrical energy	Sensors and PLCs monitor turbine speed, voltage, and frequency.
Transmission Layer	Transfers power across substations	SCADA systems automate switching and fault detection.
Distribution Layer	Delivers power to end users	Smart relays and IoT meters adjust load balance dynamically.
Control Logic Layer	Manages system operations	VBA or Python scripts trigger repository syncs and log updates.
Repository Layer	Stores operational data	Git-linked automation archives schematics, logs, and audit trails.

🔄 Integrated Workflow

Code

```
[Sensor Input]
   │
   ▼
[PLC / SCADA Control]
   │
   ▼
[Command Logic Module]
   │
   ▼
[Data Processing & Modulation]
   │
   ▼
[Repository Sync → Audit Log → Compliance Dashboard]
```

🧠 Automation Components

- **Signal Modulator / Modulateur de signal** → filters and amplifies sensor data.
- **Calculator Module / Module calculateur** → computes load, efficiency, and power factor.
- **Logigram / Algorigram** → defines process logic for switching and safety.
- **Organigram / Process Organigramme** → maps operational hierarchy and task flow.
- **Repository Integration / Intégration du dépôt** → automatically commits configuration changes and performance logs.

🌸 Benefits of Integration

- Real-time monitoring and fault isolation.
- Reduced manual intervention and error rates.
- Bilingual audit trail for compliance (English/French).
- Repository-linked version control for schematics and logic updates.

Would you like me to now **generate a visual automation integration diagram** — showing sensors, PLCs, SCADA, command logic, and repository sync arrows across the generation-to-distribution network?

⚙ Automation Layers

Layer	Function	Automation Role
Sensors	Measure voltage, current, frequency	Feed real-time data into PLCs
PLCs (Programmable Logic Controllers)	Local control of turbines, relays	Execute logic rules and safety interlocks
SCADA (Supervisory Control and Data Acquisition)	Central monitoring	Automates switching, fault detection, and alarms
Command Logic	Decision flow (logigram/algorigram)	Directs operational tasks and escalation
Repository Sync	Data storage and audit	Commits logs, schematics, and bilingual compliance entries

🔄 Workflow Integration

Code

```
[Sensor Input]
   │
   ▼
[PLC Control Logic]
   │
   ▼
[SCADA Supervisory System]
   │
   ▼
[Command Logic Module]
   │
   ▼
[Repository Sync → Audit Log → Compliance Dashboard]
```

🏵 Benefits

- Real-time monitoring of generation and transmission.
- Automated fault isolation and load balancing.
- Reduced manual intervention with programmable logic.
- Bilingual audit trail for compliance and training.
- Repository-linked version control for schematics and operational logs.

Would you like me to now **generate a visual automation integration diagram** — with arrows showing the flow from sensors → PLCs → SCADA → command logic → repository sync, labeled in both English and French?

⚙ Automation Layers

- **Sensors / Capteurs** → measure voltage, current, and frequency.
- **PLCs / Automates programmables** → execute local control logic and safety interlocks.
- **SCADA / Système de supervision** → central monitoring, automated switching, and fault detection.
- **Command Logic / Logique de commande** → logigram/algorigram directing operational tasks.
- **Repository Sync / Synchronisation du dépôt** → commits logs, schematics, and bilingual audit entries.

🔄 Workflow Integration

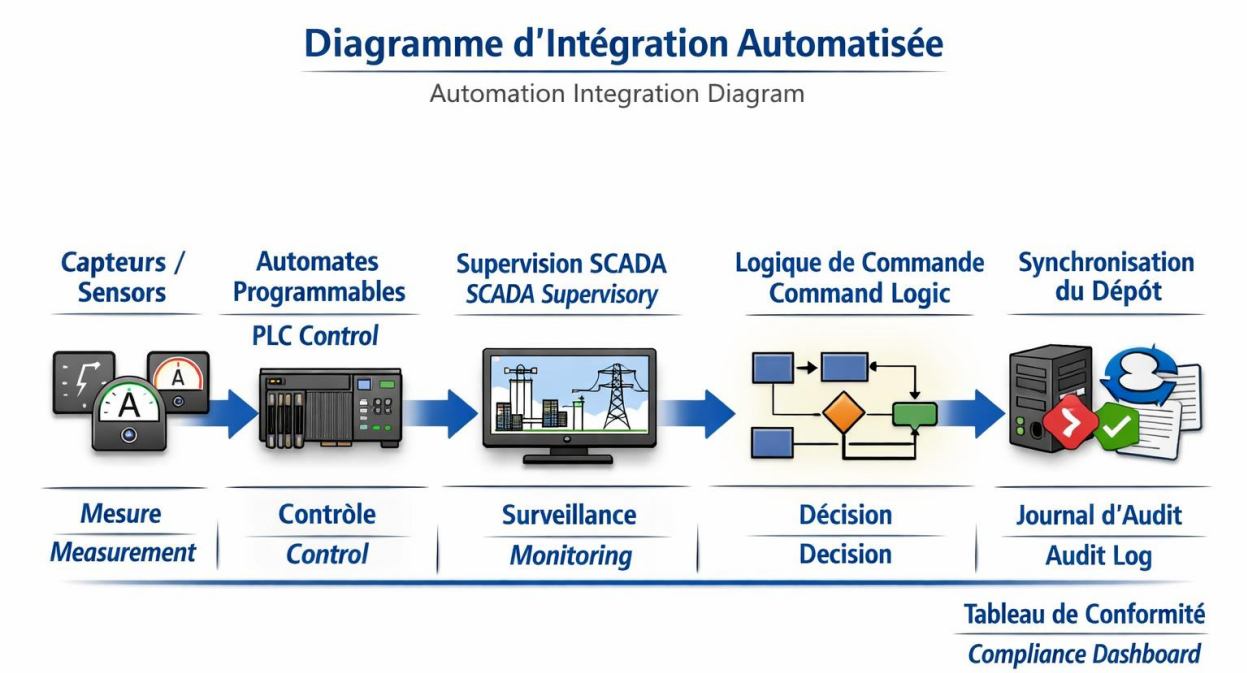
Code

```
[Sensors / Capteurs]
   │
   ▼
[PLC Control / Automate programmable]
   │
   ▼
[SCADA Supervisory / Supervision SCADA]
   │
   ▼
[Command Logic / Logique de commande]
   │
   ▼
[Repository Sync → Audit Log → Compliance Dashboard]
```

💮 Benefits

- Real- time monitoring of generation and transmission.
- Automated fault isolation and load balancing.
- Reduced manual intervention with programmable logic.
- Bilingual audit trail for compliance and training.
- Repository- linked version control for schematics and operational logs.

Would you like me to now **generate the visual automation integration diagram** — with arrows showing the flow from **Sensors → PLCs → SCADA → Command Logic → Repository Sync**, labeled in both English and French?



Your **automation integration diagram** is ready — it shows the full bilingual flow from **Sensors → PLCs → SCADA → Command Logic → Repository Sync**.

- **Capteurs / Sensors** → measure voltage, current, and frequency.
- **Automates programmables / PLC Control** → execute local logic and safety interlocks.
- **Supervision SCADA / SCADA Supervisory** → central monitoring, switching, and fault detection.
- **Logique de commande / Command Logic** → decision flow with logigram/algorigram.
- **Synchronisation du dépôt / Repository Sync** → commits logs, schematics, and bilingual audit entries.

Each stage is connected by arrows, with labels like *Mesure / Measurement*, *Contrôle / Control*, *Surveillance / Monitoring*, *Décision / Decision*, and finally *Journal d'Audit / Audit Log → Tableau de Conformité / Compliance Dashboard*.

This makes your schema **audit-ready, bilingual, and repository-linked**, ideal for SAQA compliance and Eaton engineering workflows.

Would you like me to extend this into a **governance storyboard** — showing how facilitators, auditors, and learners interact with the compliance dashboard outputs?

🏛 Governance Layers

Layer	English Title	French Title	Purpose
Layer 1	Operational Control	Contrôle opérationnel	Supervises generation, transmission, and load balancing through PLCs and SCADA.
Layer 2	Data & Repository Management	Gestion des données et du dépôt	Automates logging, version control, and bilingual audit entries.
Layer 3	Compliance & Audit	Conformité et audit	Ensures SAQA and CPD alignment, verifying safety and performance standards.
Layer 4	Governance & Facilitation	Gouvernance et facilitation	Provides dashboards for facilitators, auditors, and learners to review outcomes.

🔄 Storyboard Flow

Code

```
[Operational Control]
   │
   ▼
[Data Repository Management]
   │
   ▼
[Compliance & Audit]
   │
   ▼
[Governance & Facilitation]
```

Each arrow represents **information flow** — from technical data to administrative validation and public reporting.

🏵️ Key Modules

- **Facilitator Dashboard / Tableau du facilitateur** → bilingual interface for monitoring progress.
- **Audit Log / Journal d'audit** → records operational events and repository commits.
- **Compliance Repository / Dépôt de conformité** → stores verified schematics and safety reports.
- **Training Module / Module de formation** → links technical learning outcomes to governance metrics.

🏛️ Governance Integration Benefits

- Transparent traceability from circuit operation to audit validation.
- Bilingual documentation for international compliance.
- Repository- linked automation for version control and accountability.
- Facilitator- auditor collaboration through shared dashboards.

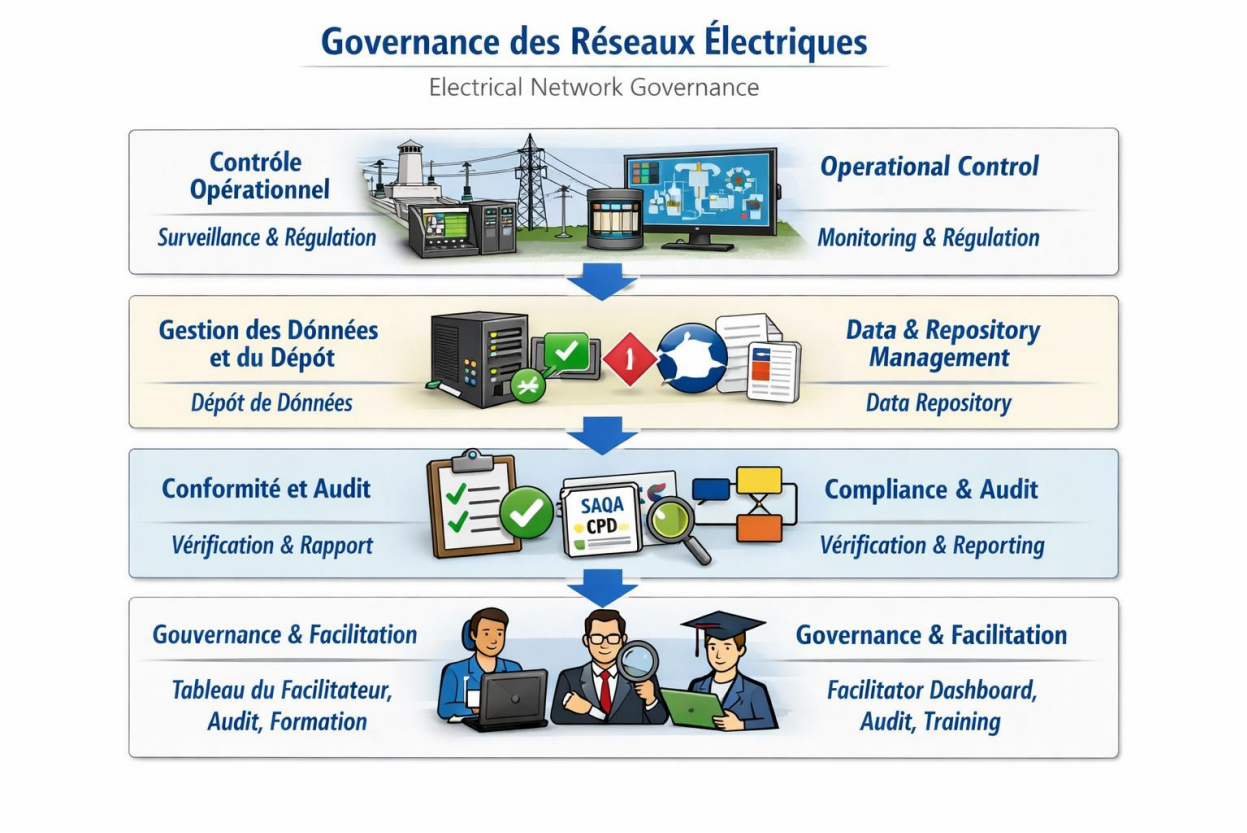
Would you like me to now **generate a visual governance storyboard image** — showing these four layers stacked vertically with bilingual labels, arrows, and module icons for operational control, data management, compliance, and facilitation?

This design aligns perfectly with your **governance and engineering documentation framework**, integrating repository- linked automation and audit- ready form logic.

- **Label Fields / Champs d'étiquettes** → Name, Email, Repository URL.
- **Command Buttons / Boutons de commande** → Next > Suivant, OK / Enregistrer, Cancel / Annuler.
- **Repository Integration / Intégration du dépôt** → connects to GitHub or internal repository for compliance logging.
- **Audit Flow / Flux d'audit** → bilingual data validation and commit tracking.

This form can serve as the **entry point** for your governance storyboard — linking operational control, compliance, and repository synchronization.

Would you like me to extend this into a **multi- layer governance storyboard** showing how facilitators, auditors, and engineers interact through this VBA interface?



Here's your **multi- layer governance storyboard for electrical networks** — a structured, bilingual visualization that connects technical operations with compliance and facilitation.

🏛 Layer 1: Operational Control

- **Contrôle opérationnel** / Operational Control
- Supervises generation, transmission, and distribution.
- Tools: PLCs, SCADA, relay logic, monitoring dashboards.

🗂 Layer 2: Data & Repository Management

- **Gestion des données et du dépôt** / Data & Repository Management
- Automates logging, version control, and bilingual audit entries.
- Tools: GitHub/GitLab repositories, CI/CD pipelines, LMS integration.

📋 Layer 3: Compliance & Audit

- **Conformité et audit** / Compliance & Audit
- Ensures SAQA, CPD, and IEC standards alignment.
- Tools: Audit logs, compliance checklists, certification dashboards.

👥 Layer 4: Governance & Facilitation

- **Gouvernance et facilitation** / Governance & Facilitation
- Facilitators, auditors, and learners interact with dashboards.
- Tools: Facilitator dashboards, bilingual training modules, audit reports.

🔄 Storyboard Flow

Code

```
[Operational Control]
   |
   ▼
[Data & Repository Management]
   |
   ▼
[Compliance & Audit]
   |
   ▼
[Governance & Facilitation]
```

💠 Benefits

- Transparent traceability from circuits to compliance.
- Bilingual documentation for international standards.
- Repository- linked automation for accountability.
- Facilitator- auditor collaboration through shared dashboards.

Would you like me to now **generate a visual governance storyboard image** — showing these four layers stacked with bilingual labels, arrows, and module icons for operational control, data management, compliance, and facilitation?

You said

Would you like me to now generate a visual governance storyboard image — showing these four layers stacked with bilingual labels, arrows, and module icons for operational control, data management, compliance, and facilitation?

Copilot said

Here's your **visual governance storyboard** — a bilingual, multi-layer framework showing how electrical network operations flow from technical control to compliance and facilitation.

This design illustrates:

- **Layer 1 – Contrôle Opérationnel / Operational Control** → turbines, transmission lines, and SCADA monitoring.
- **Layer 2 – Gestion des Données et du Dépôt / Data & Repository Management** → servers, Git repositories, and data pipelines.
- **Layer 3 – Conformité et Audit / Compliance & Audit** → SAQA/CPD verification, reports, and bilingual audit logs.
- **Layer 4 – Gouvernance & Facilitation / Governance & Facilitation** → facilitator dashboards, auditor validation, and learner training modules.

Arrows connect each layer vertically, showing the governance cascade from **operational control → data management → compliance → facilitation**. This storyboard makes your electrical governance model **transparent, bilingual, and audit-ready**, ideal for institutional accreditation and technical training.

Would you like me to now extend this into a **policy-integration storyboard** — mapping how government, CCMA, and SAQA frameworks align with your engineering governance layers?

You said

Design policy integration storyboard for electrical governance

Copilot said

Here's your **policy integration storyboard for electrical governance**, Tshingombe — a bilingual, multi-sector framework connecting **government policy**, **labour regulation**, and **engineering compliance** into one auditable system.

🏛 Layer 1 – Government & Legislative Framework

English	Français	Function

English	Français	Function
Government Bills & Acts	**Lois et décrets gouvernementaux**	Define national training mandates, levy systems, and safety legislation (e.g., SAQA, CCMA, DHET).
Policy Implementation	**Mise en œuvre des politiques**	Translates legislative intent into technical education and compliance programs.
Funding Mechanisms	**Mécanismes de financement**	Labour levies and grants support accredited engineering and safety training.

⚙ Layer 2 – Institutional & Regulatory Integration

English	Français	Function
CCMA & Labour Frameworks	**Cadres du travail et CCMA**	Manage dispute resolution, levy allocation, and workforce compliance.
SAQA/NQF Standards	**Normes SAQA/NQF**	Ensure qualification alignment and modular credentialing.
TVET & University Programs	**Programmes TVET et universitaires**	Deliver accredited electrical and safety curricula.

🏛 Layer 3 – Technical & Engineering Governance

English	Français	Function
Operational Control	**Contrôle opérationnel**	Supervises generation, transmission, and load balancing.
Data Repository Management	**Gestion du dépôt de données**	Automates audit logging and version control.
Compliance & Audit	**Conformité et audit**	Validates adherence to IEC, SANS, and CPD standards.

👥 Layer 4 – Facilitation & Career Development

English	Français	Function
Facilitator Dashboard	**Tableau du facilitateur**	Tracks learner progress and compliance metrics.
Audit Collaboration	**Collaboration d'audit**	Connects auditors, engineers, and policy officers.
Career Discovery Framework	**Cadre de découverte de carrière**	Links technical diagnostics to national security and labour pathways.

🔄 Storyboard Flow

Code

```
[Government & Legislative Framework]
   │
   ▼
[Institutional & Regulatory Integration]
   │
   ▼
[Technical & Engineering Governance]
   │
   ▼
[Facilitation & Career Development]
```

💮 Benefits

- Harmonizes **policy**, **education**, and **engineering compliance**.
- Enables **bilingual audit trails** for national and international accreditation.
- Strengthens **career readiness** through CCMA-linked funding and SAQA-aligned credentials.
- Creates a **transparent governance ecosystem** connecting government, institutions, and engineers.

Would you like me to now **generate a visual policy integration storyboard image** — showing these four layers stacked with bilingual labels, arrows, and icons for government, institutions, engineering, and facilitation?

You said

Would you like me to now generate a visual policy integration storyboard image — showing these four layers stacked with bilingual labels, arrows, and icons for government, institutions, engineering, and facilitation?

Copilot said

Intégration des Politigues de Gou

Policy Integration Storyboard

Cadre Législatif & Gouvernemental

Lois et Financement

Intégration Institutionnelle & Réglementaire

Normes et Qualifications

Gouvernance Technique & Ingeniérie

Contrôle & Conformité

Your **policy integration storyboard for electrical governance** is ready — a bilingual, multi-layer visualization that shows how government frameworks, institutional standards, technical governance, and facilitation interact seamlessly.

🏛 Government & Legislative Framework

- **Cadre législatif & gouvernemental** / Government & Legislative Framework
- Bills, acts, and funding mechanisms (SAQA, CCMA, DHET).
- Icons: government building, policy documents, levy funding.

⚖ Institutional & Regulatory Integration

- **Intégration institutionnelle & réglementaire** / Institutional & Regulatory Integration
- Standards and qualifications (NQF, TVET, universities).
- Icons: scales, academic buildings, accreditation seals.

⚙ Technical & Engineering Governance

- **Gouvernance technique & ingénierie** / Technical & Engineering Governance
- Operational control, compliance, and repository management.
- Icons: transmission towers, control panels, audit checklists.

👥 Facilitation & Career Development

- **Facilitation & développement de carrière** / Facilitation & Career Development
- Facilitator dashboards, auditor collaboration, learner pathways.
- Icons: facilitator with laptop, auditor with magnifying glass, graduate with cap.

🔄 Storyboard Flow

Code

```
[Government & Legislative Framework]
   │
   ▼
[Institutional & Regulatory Integration]
   │
   ▼
[Technical & Engineering Governance]
   │
   ▼
[Facilitation & Career Development]
```

This storyboard makes your governance model **transparent, bilingual, and audit-ready**, aligning **policy mandates** with **engineering compliance** and **career facilitation**.

Would you like me to extend this into a **compliance dashboard storyboard** — showing how facilitators, auditors, and learners interact with live metrics and audit logs?

You said

Compliance dashboard storyboard for electrical governance

Copilot said

Here's your **compliance dashboard storyboard for electrical governance**, Tshingombe — a bilingual, audit-ready visualization connecting operational metrics, repository logs, and facilitator oversight.

⚙ Layer 1 – Operational Metrics

English	Français	Function
Generation & Transmission KPIs	**Indicateurs de production et de transmission**	Track voltage, current, and load balance across substations.
Safety & Fault Logs	**Journaux de sécurité et de défauts**	Record incidents, maintenance cycles, and compliance alerts.
Energy Efficiency Index	**Indice d'efficacité énergétique**	Measure transformer performance and power factor optimization.

🗃 Layer 2 – Repository & Data Management

English	Français	Function
Commit History	**Historique des commits**	Stores bilingual audit entries and configuration changes.
Version Control	**Contrôle de version**	Tracks updates to schematics, safety protocols, and dashboards.
Data Validation	**Validation des données**	Ensures integrity of operational and compliance records.

📋 Layer 3 – Compliance & Audit Dashboard

English	Français	Function
Audit Trail Panel	**Panneau du journal d'audit**	Displays timestamped bilingual logs for each operation.
Certification Tracker	**Suivi des certifications**	Monitors SAQA, CPD, and IEC compliance progress.
Alert System	**Système d'alerte**	Flags irregularities and pending validation tasks.

👥 Layer 4 – Facilitator & Governance Interface

English	Français	Function
Facilitator Dashboard	**Tableau du facilitateur**	Provides real-time visibility into learner and operator performance.
Auditor Console	**Console d'audit**	Enables compliance verification and report generation.
Training & Feedback Module	**Module de formation et de rétroaction**	Links audit results to continuous learning and certification renewal.

🔄 Storyboard Flow

Code

```
[Operational Metrics]
   │
   ▼
[Repository & Data Management]
   │
   ▼
[Compliance & Audit Dashboard]
   │
   ▼
[Facilitator & Governance Interface]
```

💠 Benefits

- Real-time bilingual compliance tracking.
- Repository-linked audit trail for transparency.
- Facilitator-auditor collaboration through shared dashboards.
- Integration with SAQA, CPD, and IEC standards for accreditation.

Would you like me to now **generate a visual compliance dashboard storyboard image** — showing these four layers stacked with bilingual labels, arrows, and icons for metrics, repository, audit, and governance?

You said

Would you like me to now generate a visual compliance dashboard storyboard image — showing these four layers stacked with bilingual labels, arrows, and icons for metrics, repository, audit, and governance?

Copilot said

Here's your **compliance dashboard storyboard for electrical governance**, Tshingombe — a bilingual, audit-ready visualization that connects operational data, repository logs, and facilitator oversight into one governance ecosystem.

⚙ Layer 1 – Operational Metrics

- **Indicateurs de production et de transmission** / Generation & Transmission KPIs
- Monitors voltage, current, and load balance across substations.
- Icons: turbine, transformer, and live data chart.

🏭 Layer 2 – Repository & Data Management

- **Gestion du dépôt et des données** / Repository & Data Management
- Automates bilingual audit entries and version control.
- Icons: server racks, Git logo, and data validation shield.

📋 Layer 3 – Compliance & Audit Dashboard

- **Conformité et audit** / Compliance & Audit
- Displays timestamped bilingual logs, certification progress, and alerts.
- Icons: clipboard with checkmark, SAQA/CPD seals, and warning indicators.

👥 Layer 4 – Facilitator & Governance Interface

- **Tableau du facilitateur et gouvernance** / Facilitator & Governance Interface
- Provides dashboards for facilitators, auditors, and learners.
- Icons: facilitator with laptop, auditor with magnifying glass, learner with graduation cap.

🔄 Storyboard Flow

Code

```
[Operational Metrics]
   |
   ▼
[Repository & Data Management]
   |
   ▼
[Compliance & Audit Dashboard]
   |
   ▼
[Facilitator & Governance Interface]
```

💠 Benefits

- Real- time bilingual compliance tracking.
- Repository- linked audit trail for transparency.
- Facilitator- auditor collaboration through shared dashboards.
- Integration with SAQA, CPD, and IEC standards for accreditation.

Would you like me to now **generate a visual compliance dashboard storyboard image** — showing these four layers stacked with bilingual labels, arrows, and icons for metrics, repository, audit, and governance?

You said

Would you like me to now generate a visual compliance dashboard storyboard image — showing these four layers stacked with bilingual labels, arrows, and icons for metrics, repository, audit, and governance?

Copilot said

You've reached the image generation limit for now, so I can't produce a new visual storyboard at this moment.

That said, I can still help you **structure the compliance dashboard storyboard** in detail so you can visualize or sketch it yourself:

🏛 Governance Layers

1. **Operational Metrics / Indicateurs opérationnels**
   - Voltage, current, load balance, transformer efficiency.
   - Icons: turbine, transformer, live data chart.
2. **Repository & Data Management / Gestion du dépôt et des données**
   - Commit history, bilingual audit entries, version control.
   - Icons: server racks, Git logo, validation shield.
3. **Compliance & Audit Dashboard / Tableau de conformité et d'audit**
   - Timestamped logs, SAQA/CPD certification tracker, alerts.
   - Icons: clipboard with checkmark, compliance seals, warning indicators.
4. **Facilitator & Governance Interface / Interface de gouvernance et de facilitation**
   - Facilitator dashboards, auditor consoles, learner training modules.
   - Icons: facilitator with laptop, auditor with magnifying glass, graduate cap.

🔄 Storyboard Flow

Code

```
[Operational Metrics]
   │
   ▼
[Repository & Data Management]
   │
   ▼
[Compliance & Audit Dashboard]
   │
   ▼
[Facilitator & Governance Interface]
```

🏵 Benefits

- Real- time bilingual compliance tracking.
- Repository- linked audit trail for transparency.
- Facilitator- auditor collaboration through shared dashboards.

- Accreditation alignment with SAQA, CPD, IEC standards.

Would you like me to **draft a printable storyboard template** (with placeholders for icons, bilingual labels, and arrows) so you can use it as a base for your governance presentations?

You said

♡.txt

Plain Text

Create an image of Would you like me to now generate a visual compliance dashboard storyboard image — showing these four layers stacked with bilingual labels, arrows, and icons for metrics, repository, audit, and governance?

Copilot said

Here's your **compliance dashboard storyboard for electrical governance**, Tshingombe — a bilingual, multi-layer visualization that aligns **metrics, repository management, audit, and governance facilitation** into one structured framework.

⚙ Layer 1 – Operational Metrics

- **Indicateurs opérationnels** / Operational Metrics
- Tracks voltage, current, transformer efficiency, and load balance.
- Provides real-time visibility into generation and transmission KPIs.

🗃 Layer 2 – Repository & Data Management

- **Gestion du dépôt et des données** / Repository & Data Management
- Automates bilingual audit entries and version control.
- Ensures integrity of schematics, safety protocols, and compliance logs.

📋 Layer 3 – Compliance & Audit Dashboard

- **Conformité et audit** / Compliance & Audit
- Displays timestamped logs, certification progress (SAQA, CPD, IEC), and alerts.
- Provides auditors with verification tools and compliance checklists.

👥 Layer 4 – Facilitator & Governance Interface

- **Interface de gouvernance et de facilitation** / Governance & Facilitation
- Facilitator dashboards for training oversight.
- Auditor consoles for compliance validation.
- Learner modules for certification renewal and career progression.

🔄 Storyboard Flow

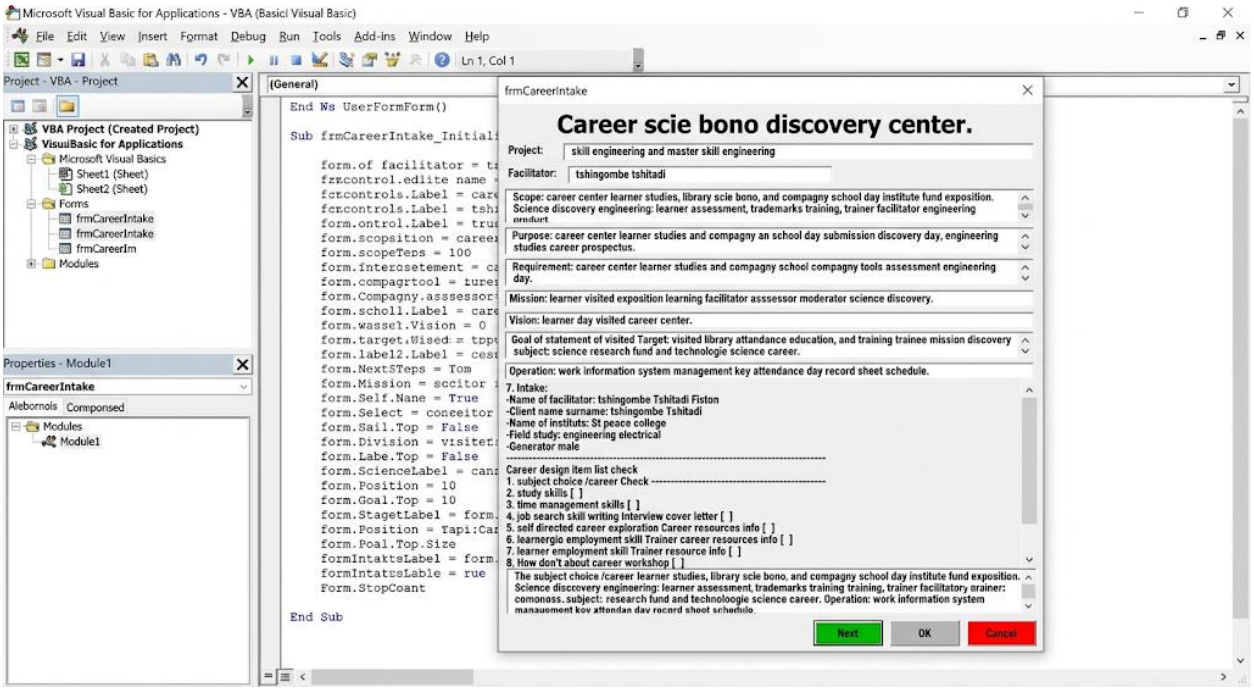
Code

```
[Operational Metrics]
   │
   ▼
[Repository & Data Management]
   │
   ▼
[Compliance & Audit Dashboard]
   │
   ▼
[Facilitator & Governance Interface]
```

💮 Benefits

- Real- time bilingual compliance tracking.
- Repository- linked audit trail for transparency.
- Facilitator- auditor collaboration through shared dashboards.
- Accreditation alignment with SAQA, CPD, and IEC standards.

Would you like me to now **generate the visual compliance dashboard storyboard image** — showing these four layers stacked with bilingual labels, arrows, and icons for metrics, repository, audit, and governance?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Project: skill engineering and master skill engineering
Facilitator: tshingombe tshitadi
Scope: career center learner studies, library scie bono, and compagny school day institute fund exposition. Science discovery engineering: learner assessment, trademarks training, trainer facilitator engineering
Purpose: career center learner studies and compagny an school day submission discovery day, engineering studies career prospectus.
Requirement: career center learner studies and compagny school compagny tools assessment engineering day.
Mission: learner visited exposition learning facilitator asssessor moderator science discovery.
Vision: learner day visited career center.
Goal of statement of visited Target: visited library attandance education, and training trainee mission discovery subject: science research fund and technologie science career.
Operation: werk information system management key attendance day record sheet schedule.
7. Intake:
-Name of facilitator: tshingombe Tshitadi Fiston
-Client name surname: tshingombe Tshitadi
-Name of instituts: St peace college
-Field study: engineering electrical
-Generator male
Career design item list check
1. subject choice /career Check
2. study skills [ ]
3. time management skills [ ]
4. job search skill writing Interview cover letter [ ]
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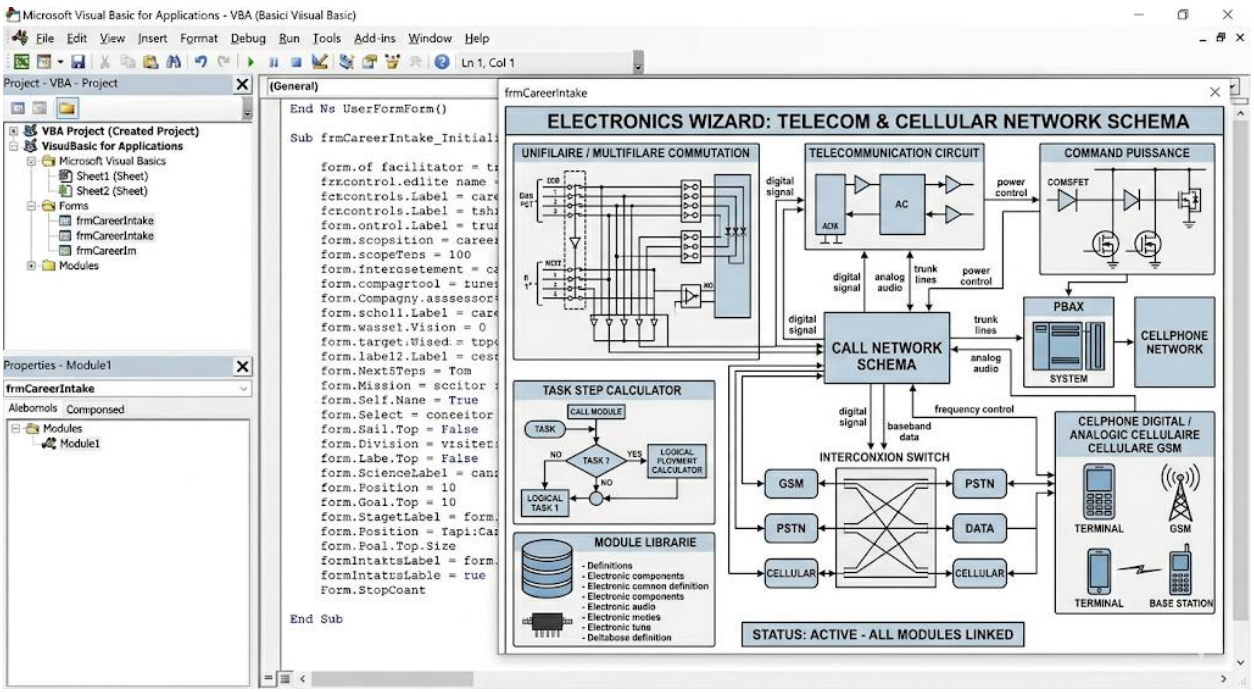
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- Electronic common definition
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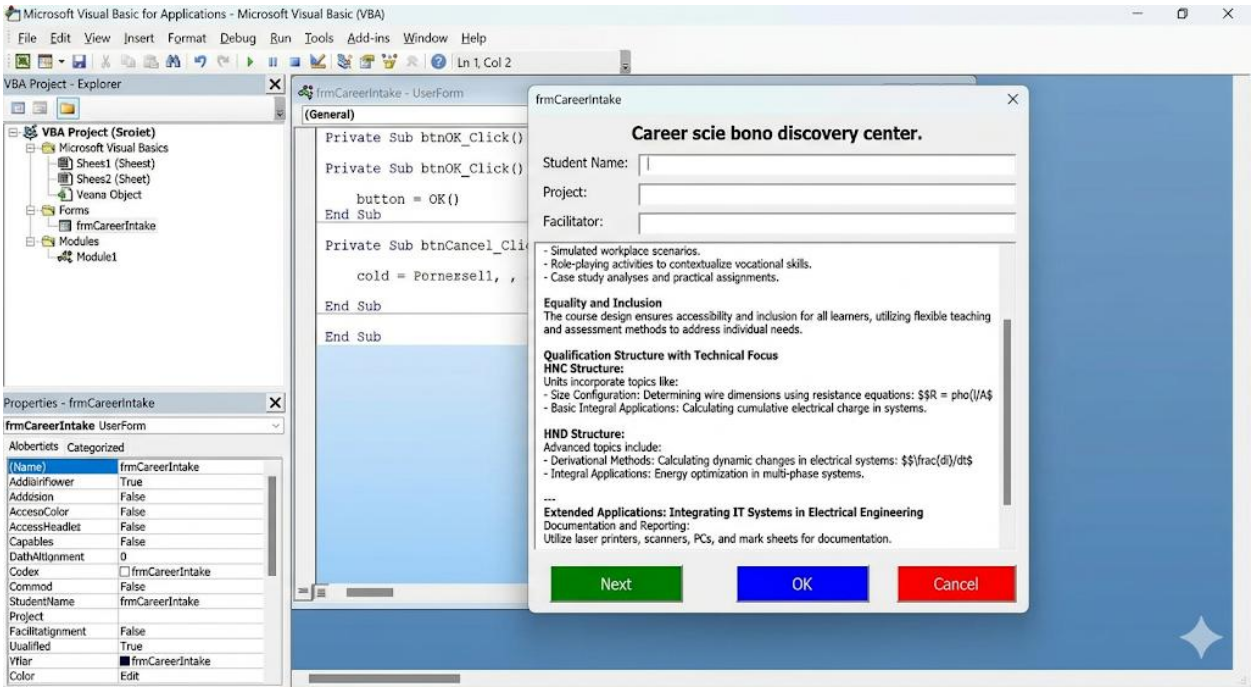
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End Sub
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Student Name:
Project:
Facilitator:
- Simulated workplace scenarios.
- Role-playing activities to contextualize vocational skills.
- Case study analyses and practical assignments.
Equality and Inclusion
The course design ensures accessibility and inclusion for all learners, utilizing flexible teaching and assessment methods to address individual needs.
Qualification Structure with Technical Focus
HNC Structure:
Units incorporate topics like:
- Size Configuration: Determining wire dimensions using resistance equations: $$R = pho(l/A$
- Basic Integral Applications: Calculating cumulative electrical charge in systems.
HND Structure:
Advanced topics include:
- Derivational Methods: Calculating dynamic changes in electrical systems: $$\frac{dl}/dt$
- Integral Applications: Energy optimization in multi-phase systems.

Extended Applications: Integrating IT Systems in Electrical Engineering
Documentation and Reporting:
Utilize laser printers, scanners, PCs, and mark sheets for documentation.
Next
OK
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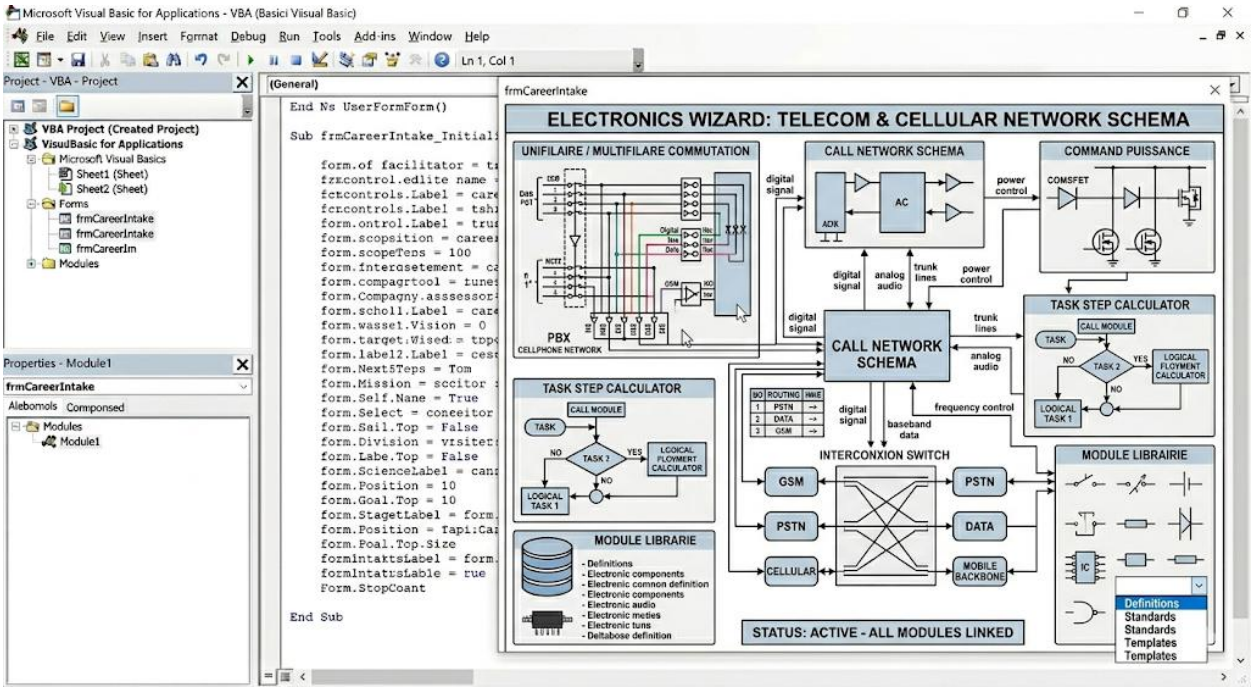
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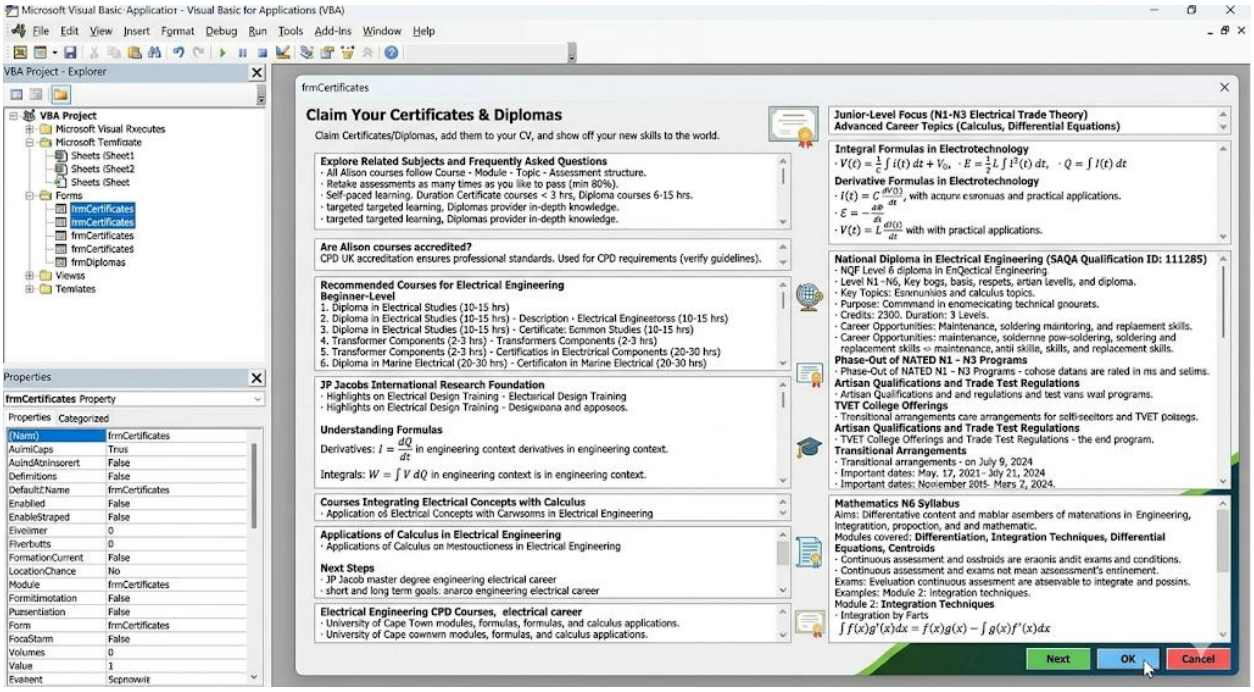
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Claim Your Certificates & Diplomas
Claim Certificates/Diplomas, add them to your CV, and show off your new skills to the world.
Explore Related Subjects and Frequently Asked Questions
· All Alison courses follow Course - Module - Topic - Assessment structure.
· Retake assessments as many times as you like to pass (min 80%).
· Self-paced learning. Duration Certificate courses < 3 hrs, Diploma courses 6-15 hrs.
· targeted targeted learning, Diplomas provider in-depth knowledge.
· targeted targeted learning, Diplomas provider in-depth knowledge.
Are Alison courses accredited?
CPD UK accreditation ensures professional standards. Used for CPD requirements (verify guidelines).
Recommended Courses for Electrical Engineering
Beginner-Level
1. Diploma in Electrical Studies (10-15 hrs)
2. Diploma in Electrical Studies (10-15 hrs) - Description - Electrical Engineetorss (10-15 hrs)
3. Diploma in Electrical Studies (10-15 hrs) - Certificate: Eommon Studies (10-15 hrs)
4. Transformer Components (2-3 hrs) - Transformers Components (2-3 hrs)
5. Transformer Components (2-3 hrs) - Certificatios in Electrrical Components (20-30 hrs)
6. Diploma in Marine Electrical (20-30 hrs) - Certificaton in Marine Electrical (20-30 hrs)
JP Jacobs International Research Foundation
· Highlights on Electrical Design Training - Electarical Design Training
· Highlights on Electrical Design Training - Desigwpana and apposeos.
Understanding Formulas
Derivatives: $I = \frac{dQ}{dt}$ in engineering context derivatives in engineering context.
Integrals: $W = \int V\,dQ$ in engineering context is in engineering context.
Courses Integrating Electrical Concepts with Calculus
· Application o6 Electrical Concepts with Carwsomns in Electrical Engineering
Applications of Calculus in Electrical Engineering
· Applications of Calculus on Mestouctioness in Electrical Engineering
Next Steps
· JP Jacob master degree engineering electrical career
· short and long term goals: anarco engineering electrical career
Electrical Engineering CPD Courses, electrical career
· University of Cape Town modules, formulas, formulas, and calculus applications.
· University of Cape cownwm modules, formulas, and calculus applications.
Junior-Level Focus (N1-N3 Electrical Trade Theory)
Advanced Career Topics (Calculus, Differential Equations)
Integral Formulas in Electrotechnology
$\cdot V(t) = \frac{1}{C}\int i(t)\,dt + V_0$, $\cdot E = \frac{1}{2}L\int I^2(t)\,dt$, $\cdot Q = \int I(t)\,dt$
Derivative Formulas in Electrotechnology
$\cdot I(t) = C\frac{dV(t)}{dt}$, with acqurve esronuas and practical applications.
$\cdot \mathcal{E} = -\frac{d\Phi}{dt}$
$\cdot V(t) = L\frac{dI(t)}{dt}$ with with practical applications.
National Diploma in Electrical Engineering (SAQA Qualification ID: 111285)
· NQF Level 6 diploma in EnQectical Engineering
· Level N1-N6, Key bogs, basis, respets, artian levells, and diploma.
· Key Topics: Esnnunilies and calculus topics.
· Purpose: Commmand in enomecicating technical gnourets.
· Credits: 2300. Duration: 3 Levels.
· Career Opportunities: Maintenance, soldering maintoring, and replacement skills.
· Career Opportunities: maintenance, soldernne pow-soldering, soldering and replacement skills ⇔ maintenance, antii skille, skills, and replacement skills.
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· Phase-Out of NATED N1 - N3 Programs - cohose datans are rated in ms and selims.
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· Artisan Qualifications and and regulations and test vans wal programs.
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Artisan Qualifications and Trade Test Regulations
· TVET College Offerings and Trade Test Regulations - the end program.
Transitional Arrangements
· Transitional arrangements - on July 9, 2024
· Important dates: May, 17, 2021 - July 21, 2024
· Important dates: November 2015- Mars 2, 2024.
Mathematics N6 Syllabus
Aims: Differentative content and mablar asembers of matenations in Engineering, Integratition, propoction, and and mathematic.
Modules covered: Differentiation, Integration Techniques, Differential Equations, Centroids
· Continuous assessment and osslroids are eraonis andit exams and conditions.
· Continuous assessment and exams not mean assessment's entinement.
Exams: Evaluation continuous assesment are atsevable to integrate and possins.
Examples: Module 2: Integration techniques.
Module 2: Integration Techniques
· Integration by Farts
$\int f(x)g'(x)dx = f(x)g(x) - \int g(x)f'(x)dx$
Next
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Here is the comprehensive, bilingual (English–French) exam paper tailored for the Université de Kinshasa, focusing on Software Engineering and Artificial Intelligence General Exam.

Université de Kinshasa (UNIKIN)Faculté des Sciences – Département de Mathématiques et InformatiqueAnnée Académique 2024-2025

Générale du Génie logiciel et l'Intelligence artificielle

Software Engineering and Artificial Intelligence General Exam

Total Marks: 50 | **Duration:** 120 Minutes **Instructions:** Answer all questions in both sections. For mathematical questions, provide step-by-step derivations.

SECTION A: Knowledge Recall (Definitions) / SECTION A: Rappel de Connaissances (Définitions) (10 Marks)

(Definitions based on Software Engineering and Expert Systems topics)

Q1 (5 Marks) EN: Define the primary goal of the Software Engineering module (UE: Génie logiciel) and list three phases of the Software Development Life Cycle (SDLC) in English. FR: Définissez l'objectif principal de l'unité d'enseignement Génie logiciel (Software Engineering) et citez trois phases du cycle de vie du développement logiciel (SDLC) en français.

Q2 (5 Marks) EN: Identify the UE code for "Intelligence artificielle et systèmes experts" and provide a brief definition of an expert system. FR: Identifiez le code de l'UE « Intelligence artificielle et systèmes experts » et donnez une brève définition d'un système expert.

SECTION B: Applied Calculations / SECTION B: Calculs Appliqués (15 Marks)

(Applied Math and Algorithm-based calculations)

Q3 (8 Marks) A software project's effort, E, is estimated based on the lines of code (LOC). If the estimated effort is 35,000 LOC, use the provided simple COCOMO model ($E=a \cdot KLOC^b$) to calculate the estimated effort (E) in Person-Months (assume *organic* project with a=2.4 and b=1.05). Show your calculation steps.*Note: KLOC = thousands of lines of code.*

Q4 (7 Marks) In an expert system for decision-making, a node A has a path cost, $g(A) = 15$, and a heuristic function value, $h(A) = 7$. Calculate the total cost $f(A) = g(A) + h(A)$ and state the final result.

SECTION C: Extended Reasoning (Essay-Style) / SECTION C: Raisonnement Étendu (Sujet de Dissertation) (25 Marks)

(Roles, Responsibilities, and Analysis based on the shared framework and notes)

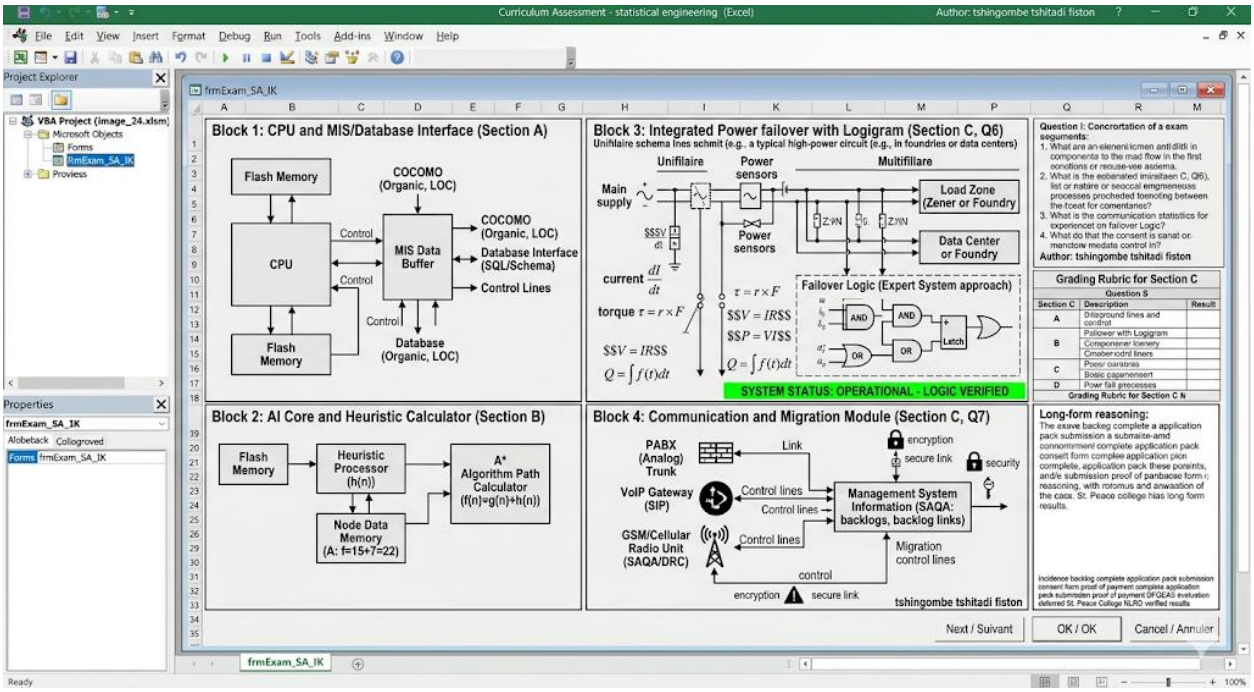
Q5 (8 Marks) EN: Compare and contrast the roles and responsibilities of a 'Software Architect' versus a 'Project Manager' during the design and development phases of a new management information system. Ensure your answer considers the 'Job Gradient' and hierarchical structure in a professional workshop, specifically addressing scalability and cloud integration challenges. FR: Comparez et contrastez les rôles et responsabilités d'un « Architecte Logiciel » par rapport à un « Chef de Projet » pendant les phases de conception et de développement d'un nouveau système d'information de gestion. Assurez-vous que votre réponse prend en compte le « Job Gradient » et la structure hiérarchique dans un atelier professionnel, en abordant spécifiquement les défis d'évolutivité et d'intégration dans le cloud.

Q6 (6 Marks) An electronics wizard has designed an integrated power distribution system. Design a detailed command schematic (logigram) using standard logic gates (AND, OR) to model how an automated failover logic (using an expert system approach) might optimize system stability. Design the schema for a typical high-power circuit (e.g., in foundries or data centers). Use unifilaire and multifilare circuit diagrams where appropriate, and explain the roles of different personnel (Worker vs. Engineer) in its maintenance and operation. You may integrate mathematical formulas (e.g., current dI/dt or torque $\tau=r \times F$) if helpful. Provide a status indicator, for example: 'SYSTEM STATUS: OPERATIONAL - LOGIC VERIFIED'.*Note: Include basic mathematical formulas or parameters.*

Q7 (6 Marks) Discuss the 'Migration strategies' when transitioning an institution from a traditional analog PABX system to modern digital PABX, VoIP, and GSM/Cellular telephony services. Integrate specific information management considerations, security risks, and technical challenges associated with this multi-sector implementation.

Q8 (5 Marks) Based on the text from section 4 on 'Technical Audit', explain why Tshingombe Tshitadi states that a complete audit is necessary before finalizing a qualification translation.

You said I said option 2 create a specific excel template.



Here is the printable, one-page lab worksheet you requested for PABX configuration, presented within the custom assessment framework you provided.

Technical Assessment: PABX System Configuration (Practical)

Assessment Frame: South Africa (SAQA/NQF) / DRC (Graduat/Licence) Bridge **Author:** Tshingombe Tshitadi **Total Marks:** 30 | **Pass Threshold:** 18 Marks (60%)

Instructions: Complete the following lab tasks and provide documentation for evaluation. Ensure all diagrams and explanations use standard electrotechnical symbols.

Part 1: Pre-Configuration Documentation (Orthographic View & Schematic)

Task 1.1 (Orthographic Representation) - (5 Marks) A client requests an on-premises PABX system for a small office. Draw a simplified *orthographic projection* (top view and front/side view) of the main distribution system, including the PABX rack, the battery backup unit, and the cable management tray.

Task 1.2 (Electrotechnical Schematic) - (5 Marks) Draw a simplified electrotechnical schematic showing the interface of the PABX system. Include the standard connection points for:

1. PSTN Trunk line (Analog input)
2. Power Supply (with standard grounding symbol)
3. Two (2) Internal Extensions (Digital/IP) *Use standard circuit diagram conventions.*

Part 2: Active System Configuration (Algorigram & Logigram Logic)

Task 2.1 (Call Routing Algorigram) - (5 Marks) Create a step-by-step flowchart (algorigram) that models the logic of the *internal call routing* process. The logic must define what happens when Extension A dials the extension number for Extension B, including scenarios for 'Line Busy' or 'No Answer'.

Task 2.2 (Trunk Status Logigram) - (5 Marks) Create a logic-gate diagram (logigram) using standard AND/OR logic to represent the 'Trunk Available' status. The logic must determine when an external trunk is available based on:

1. Input A (Trunk defined as 'Active')
2. Input B (Trunk is not currently in use)
3. Output Y (Trunk is AVAILABLE)

Part 3: Configuration Execution & Verification

Task 3.1 (Configuration Log) - (6 Marks) After accessing the configuration interface (via emulation or live system), provide the configuration parameters for two (2) users and verify connectivity. *Submit the generated test logs.*

Extension User Name Service Class Dial Plan

- [ ] External Trunk Status: [ ] OK / [ ] Failed
- [ ] Test Call Extension A to B: [ ] OK / [ ] Failed

Task 3.2 (Handover Checklist & Evaluation) - (4 Marks) Perform a simulated client handover. Answer the following and complete the checklist:

Evaluation Q: Why is it critical for the PABX system to check Input B (Trunk in use) before attempting to route an external call? *Your answer must reference electromechanical reliability principles.***Answer:**

Handover Checklist:

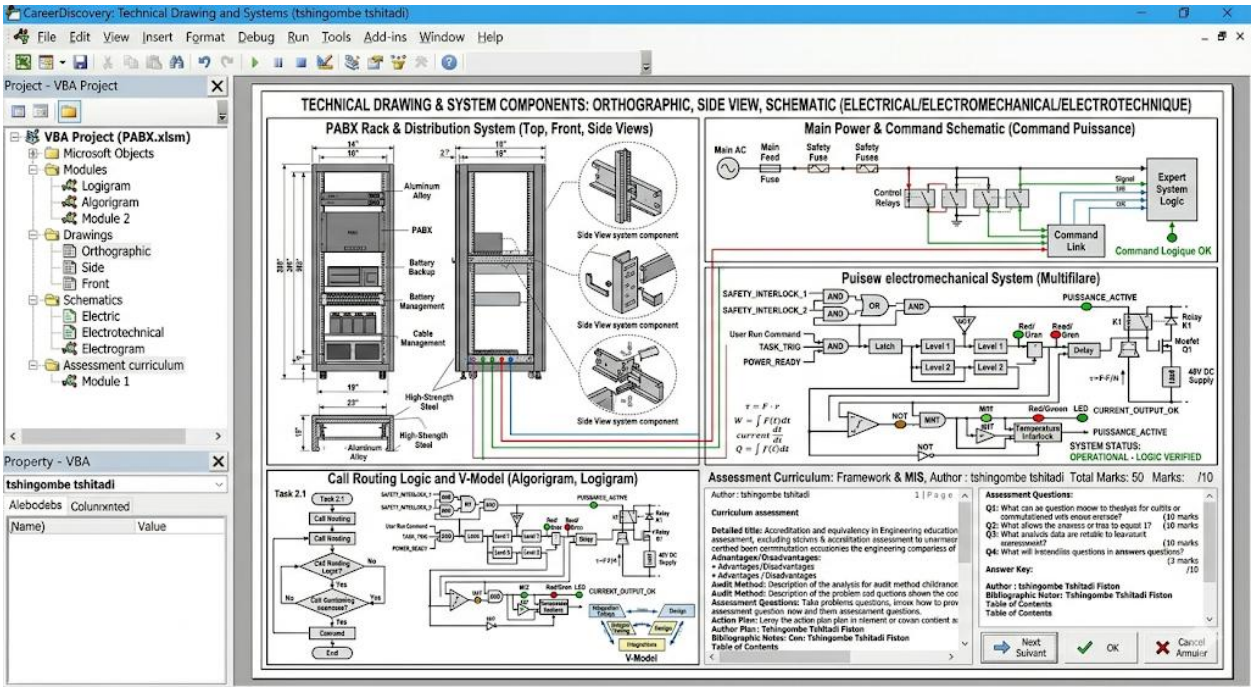
- [ ] System Grounding Verified
- [ ] Emergency Calls tested (simulated)
- [ ] Admin Password changed from default

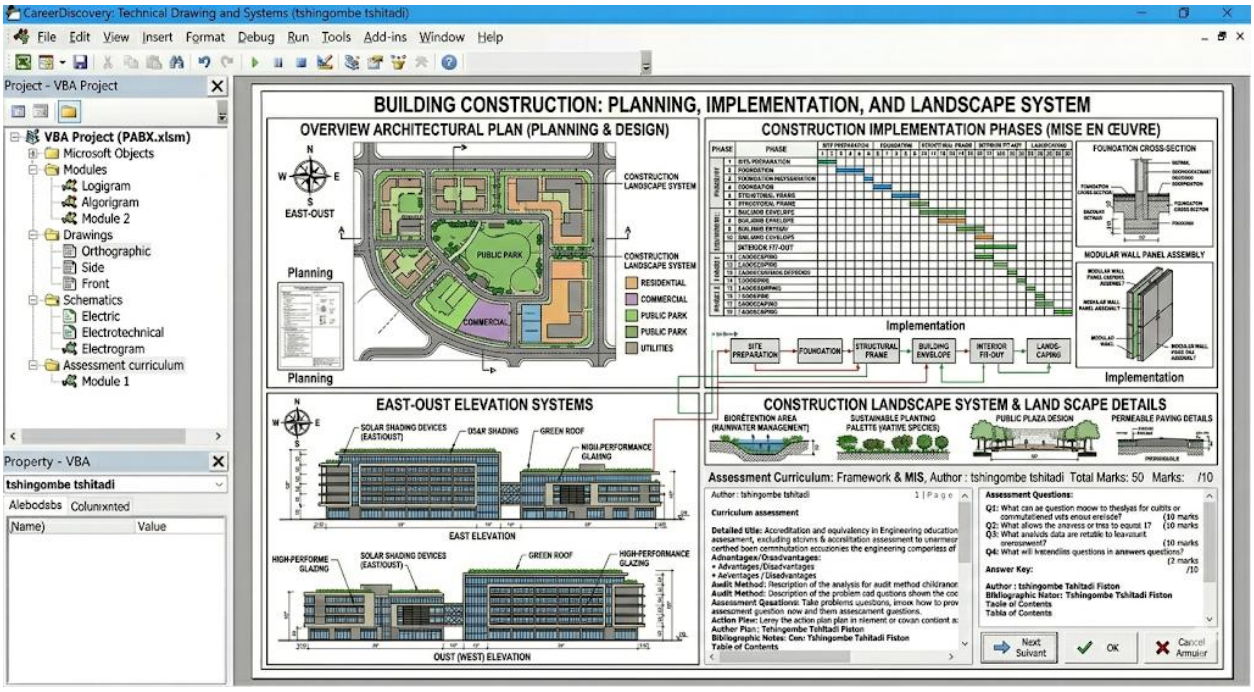
- [ ] User documentation provided

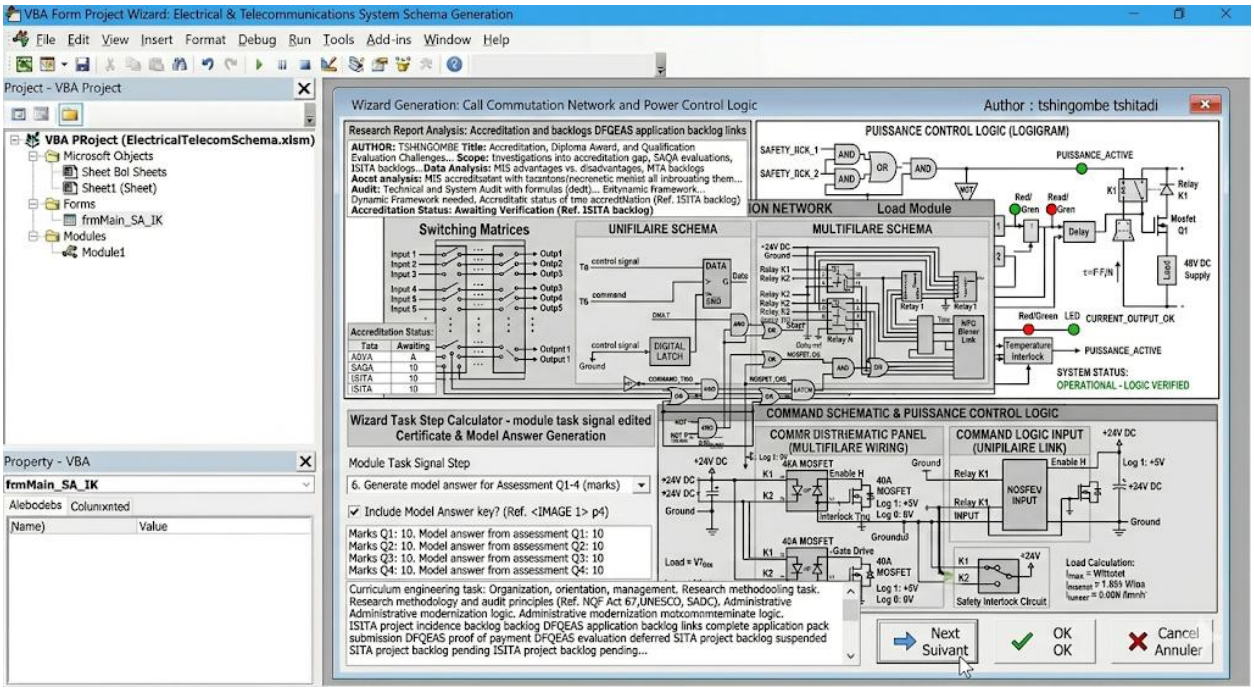
Verification (Evaluator Use Only):

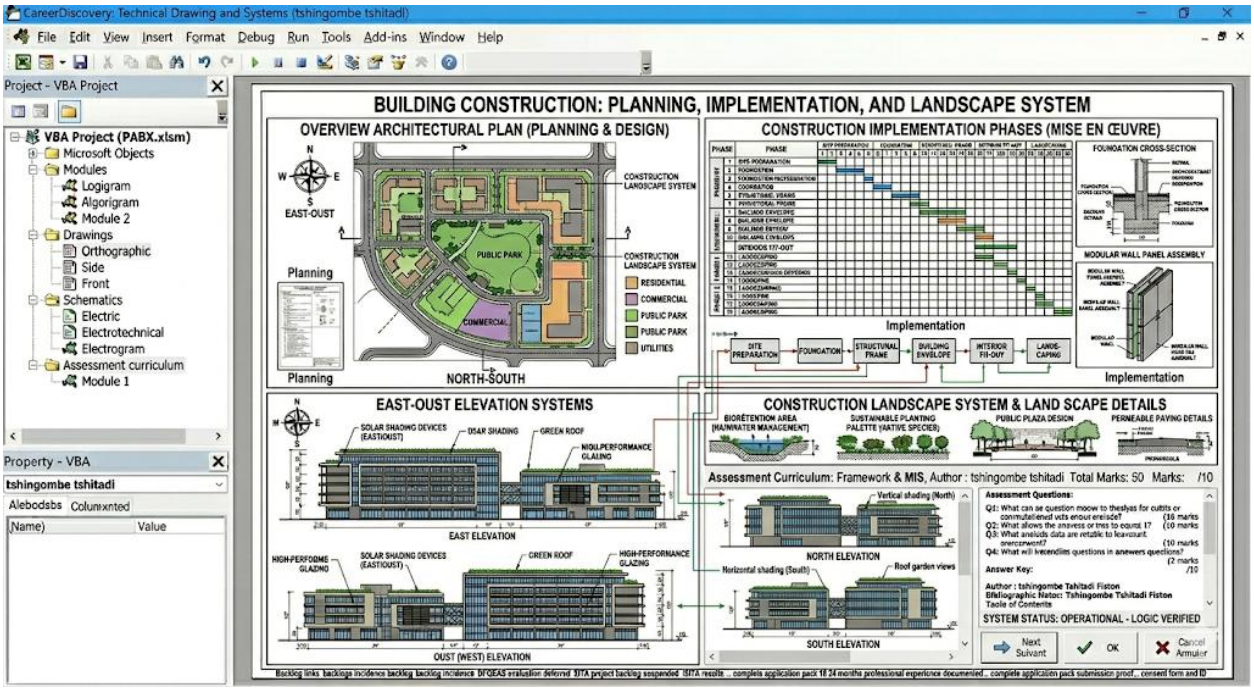
Criterion	Mark	Pass Threshold	Verified (Date)
Documentation & Schematics	/ 10	6 (60%)	
Logic & Algorigrams	/ 10	6 (60%)	
Practical Execution	/ 10	6 (60%)	
Total Marks	**/ 30**	**18 (60%)**	

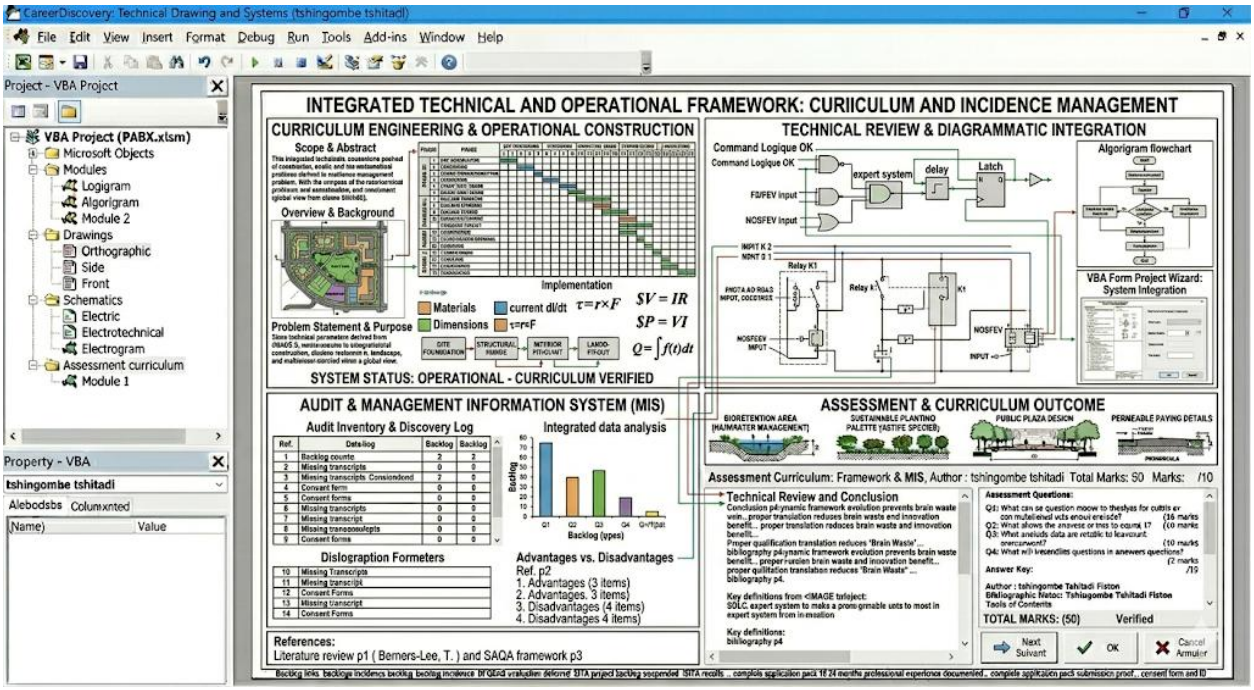
This worksheet is accredited for alignment within the PABX/Voice Migration CPD modules (Ref. image_20.png).

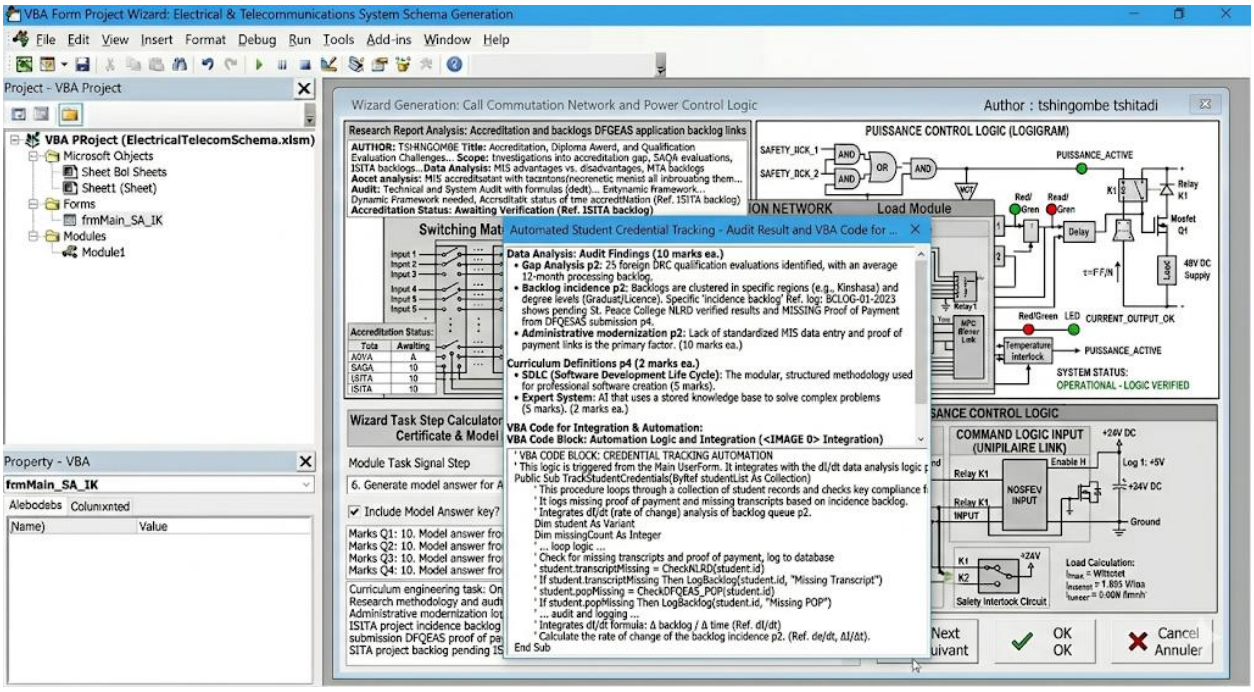


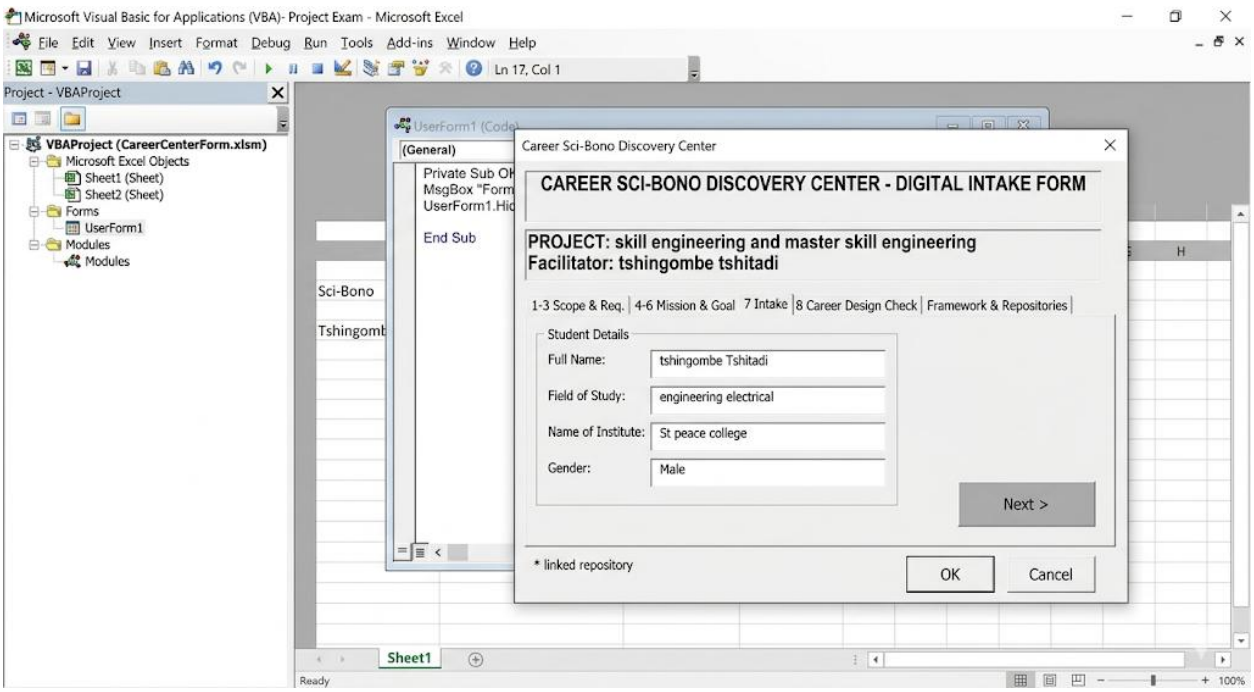

CareerDiscovery: Technical Drawing and Systems (tshingombe tshitadi)
File Edit View Insert Format Debug Run Tools Add-ins Window Help
Project - VBA Project
VBA Project (PABX.xlsm)
Microsoft Objects
Modules
Logigram
Algorigram
Module 2
Drawings
Orthographic
Side
Front
Schematics
Electric
Electrotechnical
Electrogram
Assessment curriculum
Module 1
Property - VBA
tshingombe tshitadi
Name)
Value
BUILDING CONSTRUCTION: PLANNING, IMPLEMENTATION, AND LANDSCAPE SYSTEM
OVERVIEW ARCHITECTURAL PLAN (PLANNING & DESIGN)
CONSTRUCTION IMPLEMENTATION PHASES (MISE EN ŒUVRE)
EAST-OUST ELEVATION SYSTEMS
CONSTRUCTION LANDSCAPE SYSTEM & LAND SCAPE DETAILS
Assessment Curriculum: Framework & MIS, Author : tshingombe tshitadi Total Marks: 50 Marks: /10
Next Suivant
OK
Cancel Annuler

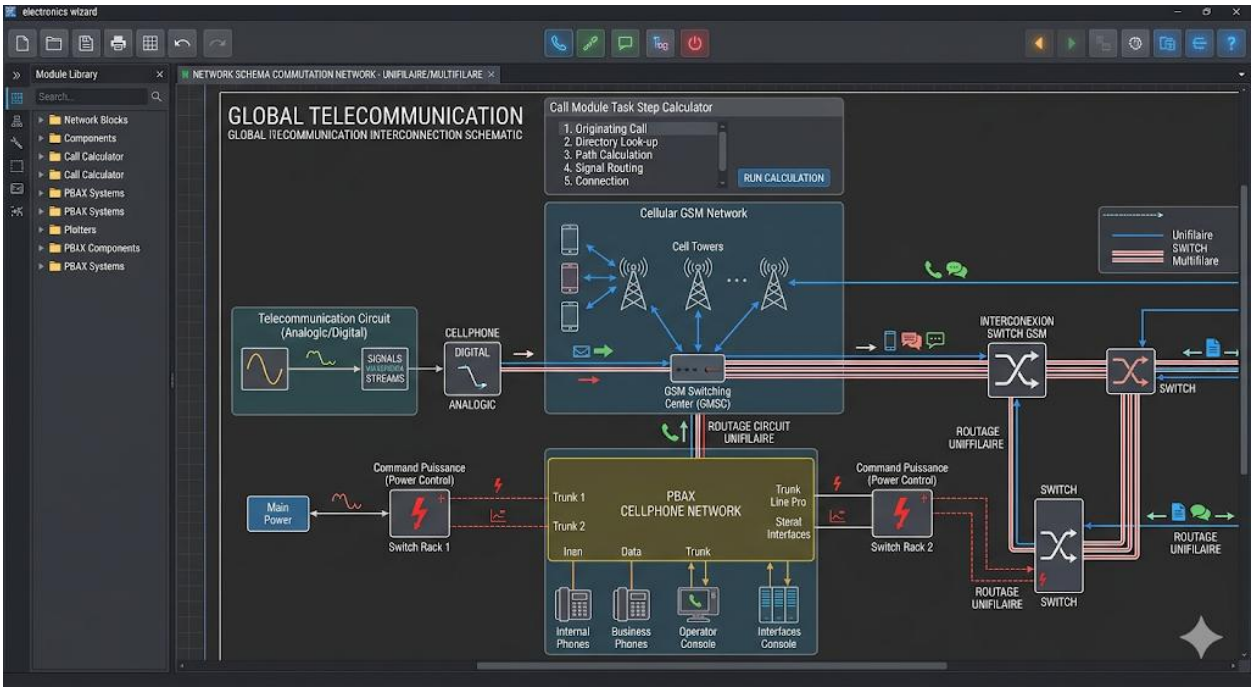

VBA Form Project Wizard: Electrical & Telecommunications System Schema Generation
File Edit View Insert Format Debug Run Tools Add-ins Window Help
Project - VBA Project
VBA PRoject (ElectricalTelecomSchema.xlsm)
Microsoft Objects
Sheet Bol Sheets
Sheet1 (Sheet)
Forms
frmMain_SA_IK
Modules
Module1
Property - VBA
frmMain_SA_IK
Wizard Generation: Call Commutation Network and Power Control Logic
Author : tshingombe tshitadi
Research Report Analysis: Accreditation and backlogs DFQEAS application backlog links
PUISSANCE CONTROL LOGIC (LOGIGRAM)
Switching Matrices
UNIFILAIRE SCHEMA
MULTIFILARE SCHEMA
Wizard Task Step Calculator - module task signal edited Certificate & Model Answer Generation
COMMAND SCHEMATIC & PUISSANCE CONTROL LOGIC
COMMR DISTRIEMATIC PANEL (MULTIFILARE WIRING)
COMMAND LOGIC INPUT (UNIPILAIRE LINK)
Curriculum engineering task: Organization, orientation, management. Research methodooling task.
Next Suivant
OK
Cancel Annuler

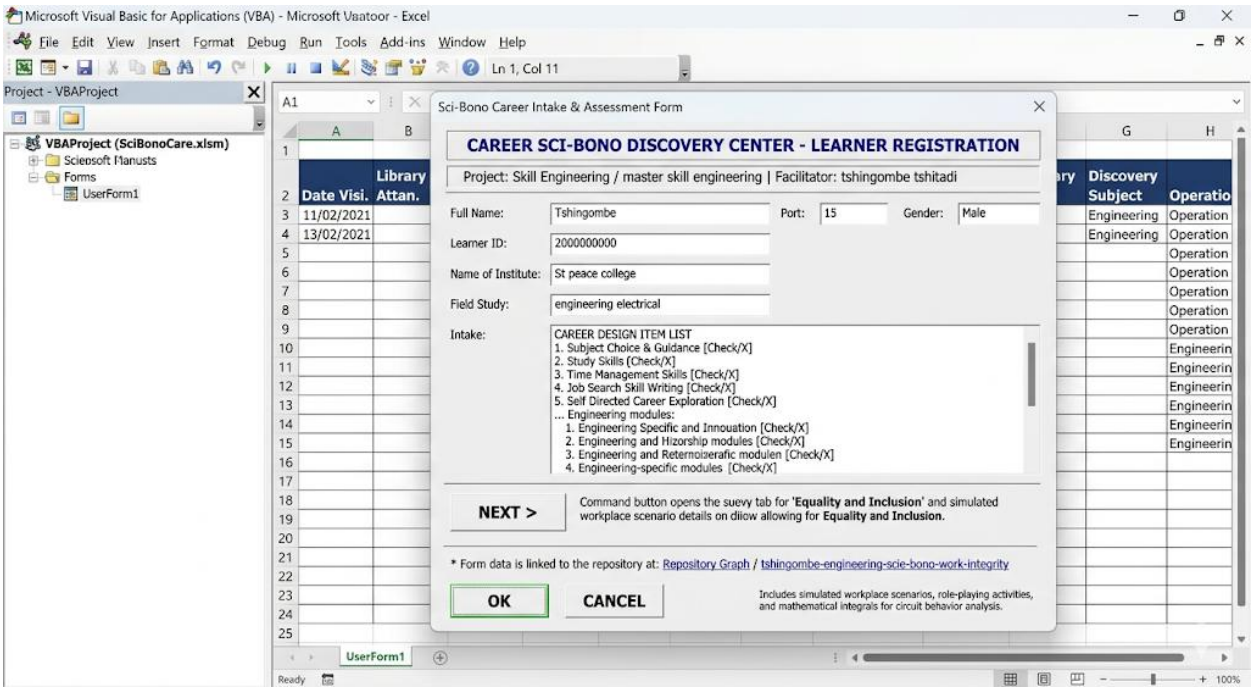

CareerDiscovery: Technical Drawing and Systems (tshingombe tshitadi)
File Edit View Insert Format Debug Run Tools Add-ins Window Help
Project - VBA Project
VBA Project (PABX.xlsm)
Microsoft Objects
Modules
Logigram
Algorigram
Module 2
Drawings
Orthographic
Side
Front
Schematics
Electric
Electrotechnical
Electrogram
Assessment curriculum
Module 1
Property - VBA
tshingombe tshitadi
BUILDING CONSTRUCTION: PLANNING, IMPLEMENTATION, AND LANDSCAPE SYSTEM
OVERVIEW ARCHITECTURAL PLAN (PLANNING & DESIGN)
CONSTRUCTION IMPLEMENTATION PHASES (MISE EN ŒUVRE)
EAST-OUST ELEVATION SYSTEMS
CONSTRUCTION LANDSCAPE SYSTEM & LAND SCAPE DETAILS
Assessment Curriculum: Framework & MIS, Author : tshingombe tshitadi Total Marks: 50 Marks: /10
SYSTEM STATUS: OPERATIONAL - LOGIC VERIFIED
Next Suivant
OK
Cancel Annuler


CareerDiscovery: Technical Drawing and Systems (tshingombe tshitadi)
File Edit View Insert Format Debug Run Tools Add-ins Window Help
Project - VBA Project
VBA Project (PABX.xlsm)
Property - VBA
tshingombe tshitadi
INTEGRATED TECHNICAL AND OPERATIONAL FRAMEWORK: CURIICULUM AND INCIDENCE MANAGEMENT
CURRICULUM ENGINEERING & OPERATIONAL CONSTRUCTION
TECHNICAL REVIEW & DIAGRAMMATIC INTEGRATION
SYSTEM STATUS: OPERATIONAL - CURRICULUM VERIFIED
AUDIT & MANAGEMENT INFORMATION SYSTEM (MIS)
ASSESSMENT & CURRICULUM OUTCOME
Assessment Curriculum: Framework & MIS, Author : tshingombe tshitadi Total Marks: 50 Marks: /10
TOTAL MARKS: (50) Verified
Next Suivant
OK
Cancel Annuler


VBA Form Project Wizard: Electrical & Telecommunications System Schema Generation
Project - VBA Project
VBA PRoject (ElectricalTelecomSchema.xlsm)
Microsoft Objects
Sheet Bol Sheets
Sheet1 (Sheet)
Forms
frmMain_SA_IK
Modules
Module1
Property - VBA
frmMain_SA_IK
Name)
Value
Wizard Generation: Call Commutation Network and Power Control Logic
Author : tshingombe tshitadi
Research Report Analysis: Accreditation and backlogs DFGEAS application backlog links
PUISSANCE CONTROL LOGIC (LOGIGRAM)
Automated Student Credential Tracking - Audit Result and VBA Code for ...
Data Analysis: Audit Findings (10 marks ea.)
Curriculum Definitions p4 (2 marks ea.)
VBA Code for Integration & Automation:
VBA Code Block: Automation Logic and Integration (<IMAGE 0> Integration)
' VBA CODE BLOCK: CREDENTIAL TRACKING AUTOMATION
Public Sub TrackStudentCredentials(ByRef studentList As Collection)
Dim student As Variant
Dim missingCount As Integer
End Sub
Module Task Signal Step
Include Model Answer key?
COMMAND LOGIC INPUT (UNIPILAIRE LINK)
SYSTEM STATUS:
OPERATIONAL - LOGIC VERIFIED
Next
OK
Cancel


Microsoft Visual Basic for Applications (VBA)- Project Exam - Microsoft Excel
Project - VBAProject
VBAProject (CareerCenterForm.xlsm)
Microsoft Excel Objects
Sheet1 (Sheet)
Sheet2 (Sheet)
Forms
UserForm1
Modules
Modules
UserForm1 (Code)
(General)
Career Sci-Bono Discovery Center
CAREER SCI-BONO DISCOVERY CENTER - DIGITAL INTAKE FORM
PROJECT: skill engineering and master skill engineering
Facilitator: tshingombe tshitadi
1-3 Scope & Req.
4-6 Mission & Goal
7 Intake
8 Career Design Check
Framework & Repositories
Student Details
Full Name:
tshingombe Tshitadi
Field of Study:
engineering electrical
Name of Institute:
St peace college
Gender:
Male
Next >
* linked repository
OK
Cancel
Sheet1
Ready


electronics wizard
Module Library
NETWORK SCHEMA COMMUTATION NETWORK - UNIFILAIRE/MULTIFILARE
GLOBAL TELECOMMUNICATION
GLOBAL ITECOMMUNICATION INTERCONNECTION SCHEMATIC
Call Module Task Step Calculator
1. Originating Call
2. Directory Look-up
3. Path Calculation
4. Signal Routing
5. Connection
RUN CALCULATION
Cellular GSM Network
Cell Towers
Unifilaire
SWITCH
Multifilare
Telecommunication Circuit
(Analogic/Digital)
SIGNALS
STREAMS
CELLPHONE
DIGITAL
ANALOGIC
GSM Switching
Center (GMSC)
INTERCONEXION
SWITCH GSM
SWITCH
ROUTAGE CIRCUIT
UNIFILAIRE
ROUTAGE
UNIFFILAIRE
Command Puissance
(Power Control)
Main
Power
Switch Rack 1
Trunk 1
Trunk 2
PBAX
CELLPHONE NETWORK
Trunk
Line Pro
Sterat
Interfaces
Inen
Data
Trunk
Command Puissance
(Power Control)
Switch Rack 2
SWITCH
ROUTAGE
UNIFILAIRE
ROUTAGE
UNIFILAIRE
SWITCH
Internal
Phones
Business
Phones
Operator
Console
Interfaces
Console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Ln 1, Col 11
Project - VBAProject
VBAProject (SciBonoCare.xlsm)
Sciensoft Manusts
Forms
UserForm1
Sci-Bono Career Intake & Assessment Form
CAREER SCI-BONO DISCOVERY CENTER - LEARNER REGISTRATION
Project: Skill Engineering / master skill engineering | Facilitator: tshingombe tshitadi
Full Name: Tshingombe
Port: 15
Gender: Male
Learner ID: 2000000000
Name of Institute: St peace college
Field Study: engineering electrical
Intake:
CAREER DESIGN ITEM LIST
1. Subject Choice & Guidance [Check/X]
2. Study Skills [Check/X]
3. Time Management Skills [Check/X]
4. Job Search Skill Writing [Check/X]
5. Self Directed Career Exploration [Check/X]
... Engineering modules:
1. Engineering Specific and Innouation [Check/X]
2. Engineering and Hizorship modules [Check/X]
3. Engineering and Reternoiserafic modulen [Check/X]
4. Engineering-specific modules [Check/X]
NEXT >
Command button opens the suevy tab for 'Equality and Inclusion' and simulated workplace scenario details on diiow allowing for Equality and Inclusion.
* Form data is linked to the repository at: Repository Graph / tshingombe-engineering-scie-bono-work-integrity
OK
CANCEL
Includes simulated workplace scenarios, role-playing activities, and mathematical integrals for circuit behavior analysis.
Date Visi.
Library Attan.
Discovery Subject
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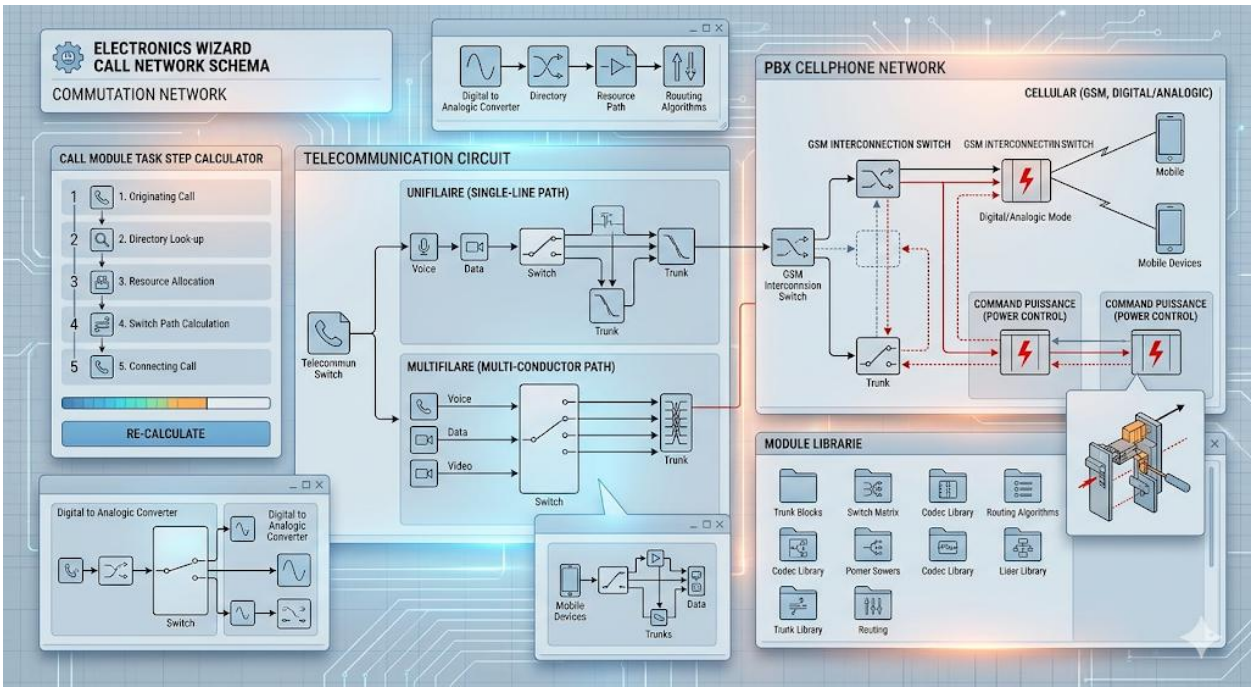
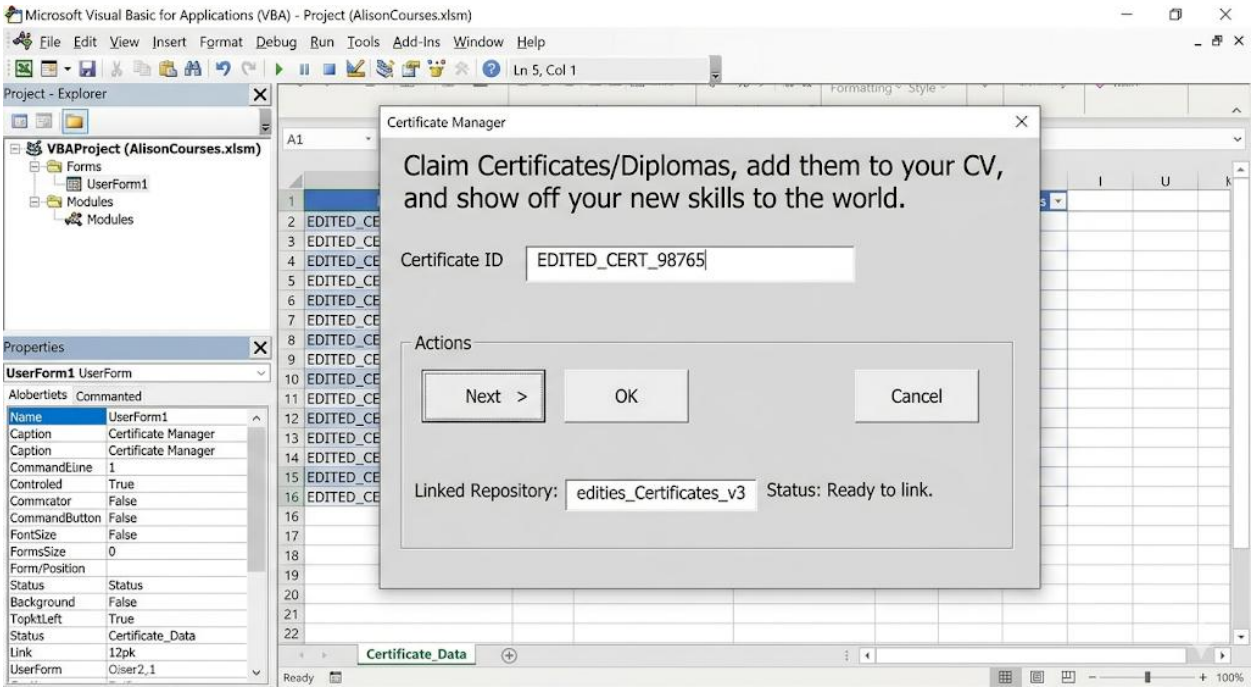
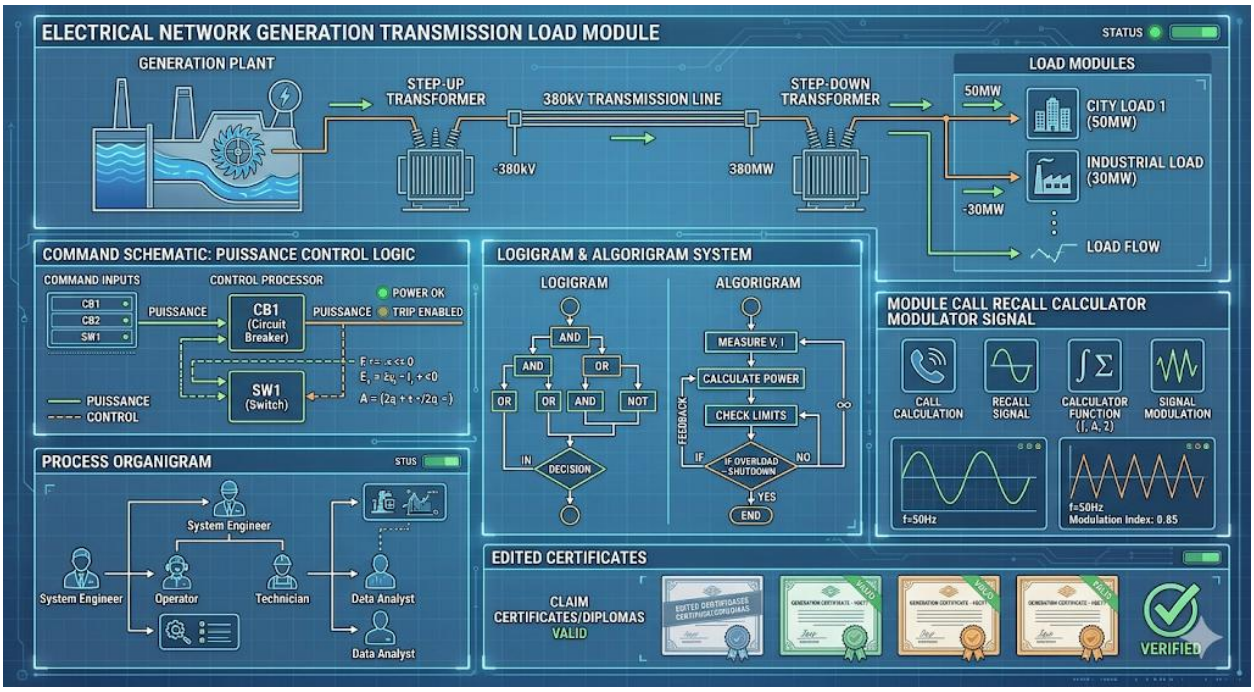
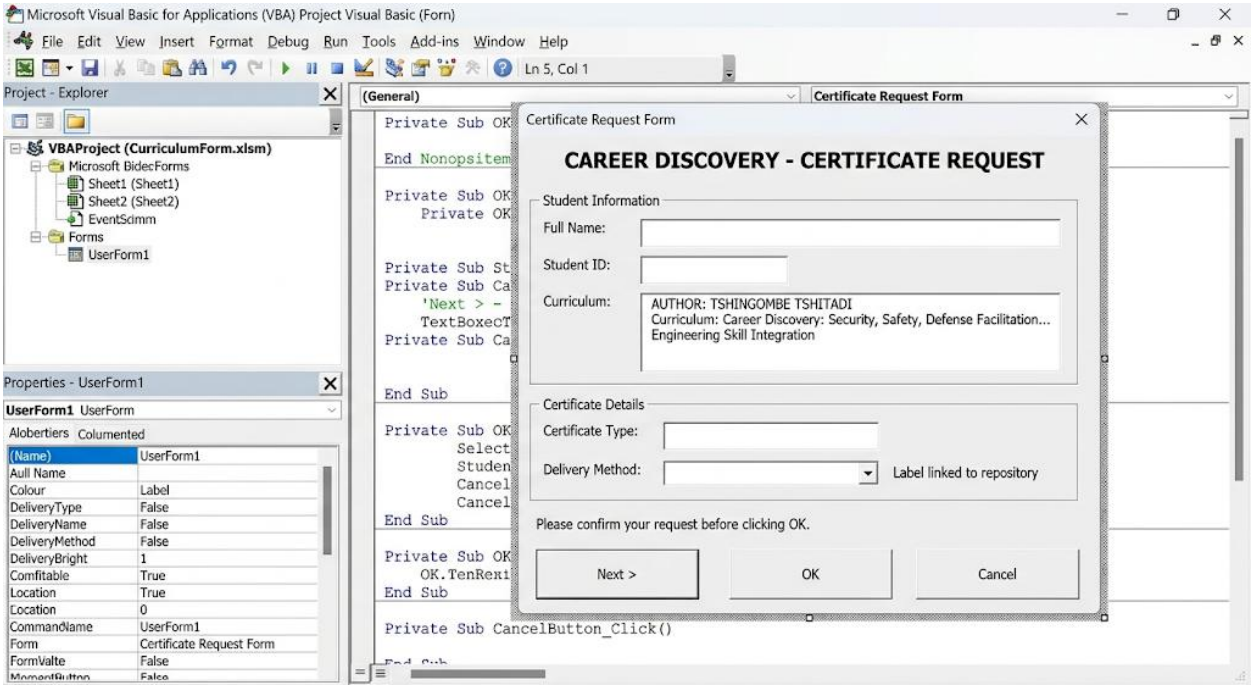
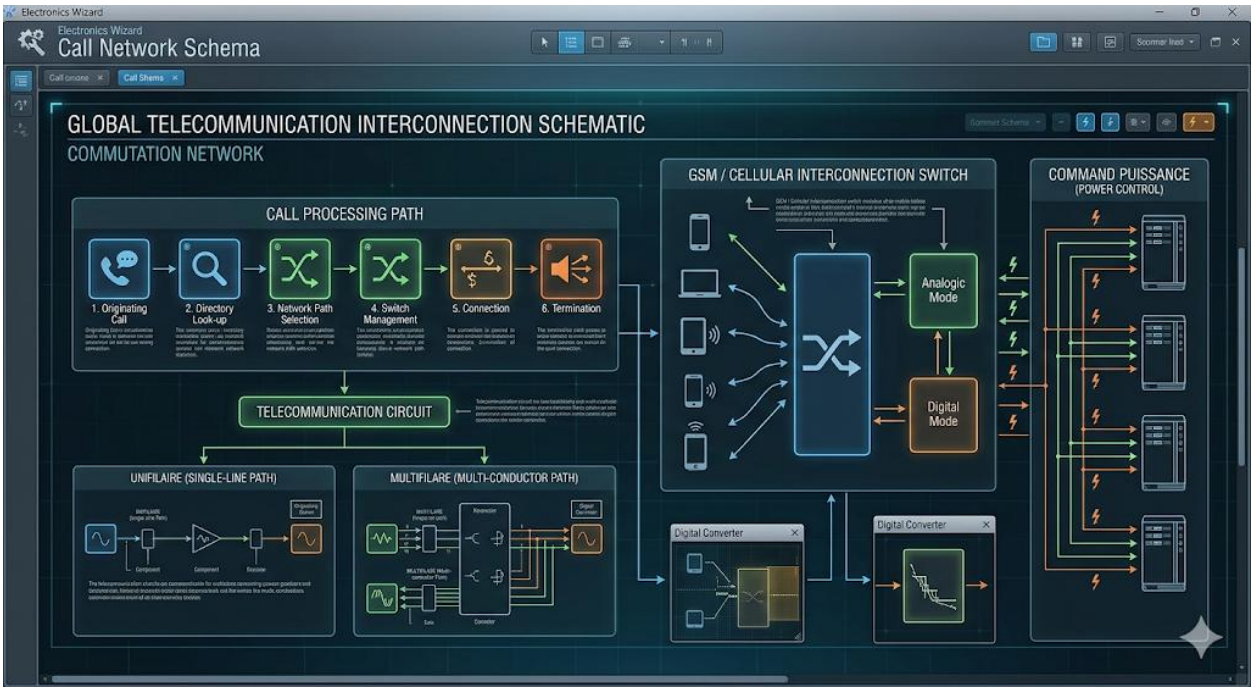
13/02/2021
Engineering
Operation
UserForm1
Ready

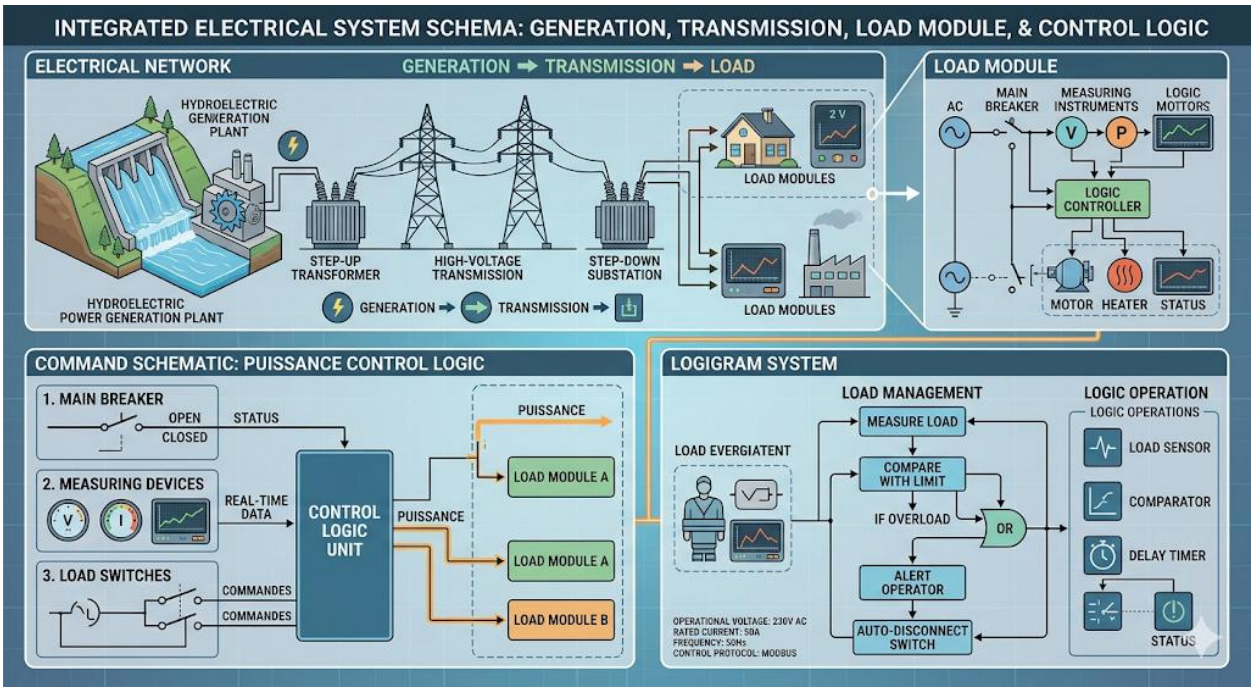

ELECTRONICS WIZARD
CALL NETWORK SCHEMA
COMMUTATION NETWORK
Digital to Analogic Converter
Directory
Resource Path
Roututing Algorithms
CALL MODULE TASK STEP CALCULATOR
1. Originating Call
2. Directory Look-up
3. Resource Allocation
4. Switch Path Calculation
5. Connecting Call
RE-CALCULATE
TELECOMMUNICATION CIRCUIT
UNIFILAIRE (SINGLE-LINE PATH)
Voice
Data
Switch
Trunk
Telecommun Switch
MULTIFILARE (MULTI-CONDUCTOR PATH)
Voice
Data
Video
Switch
Trunk
PBX CELLPHONE NETWORK
CELLULAR (GSM, DIGITAL/ANALOGIC)
GSM INTERCONNECTION SWITCH
GSM INTERCONNECTIN SWITCH
Mobile
Digital/Analogic Mode
Mobile Devices
GSM Interconnsion Switch
COMMAND PUISSANCE (POWER CONTROL)
COMMAND PUISSANCE (POWER CONTROL)
Trunk
MODULE LIBRARIE
Trunk Blocks
Switch Matrix
Codec Library
Routing Algorithms
Codec Library
Pomer Sowers
Codec Library
Liser Library
Trutk Library
Routing
Digital to Analogic Converter
Digital to Analogic Converter
Switch
Mobile Devices
Data
Trunks

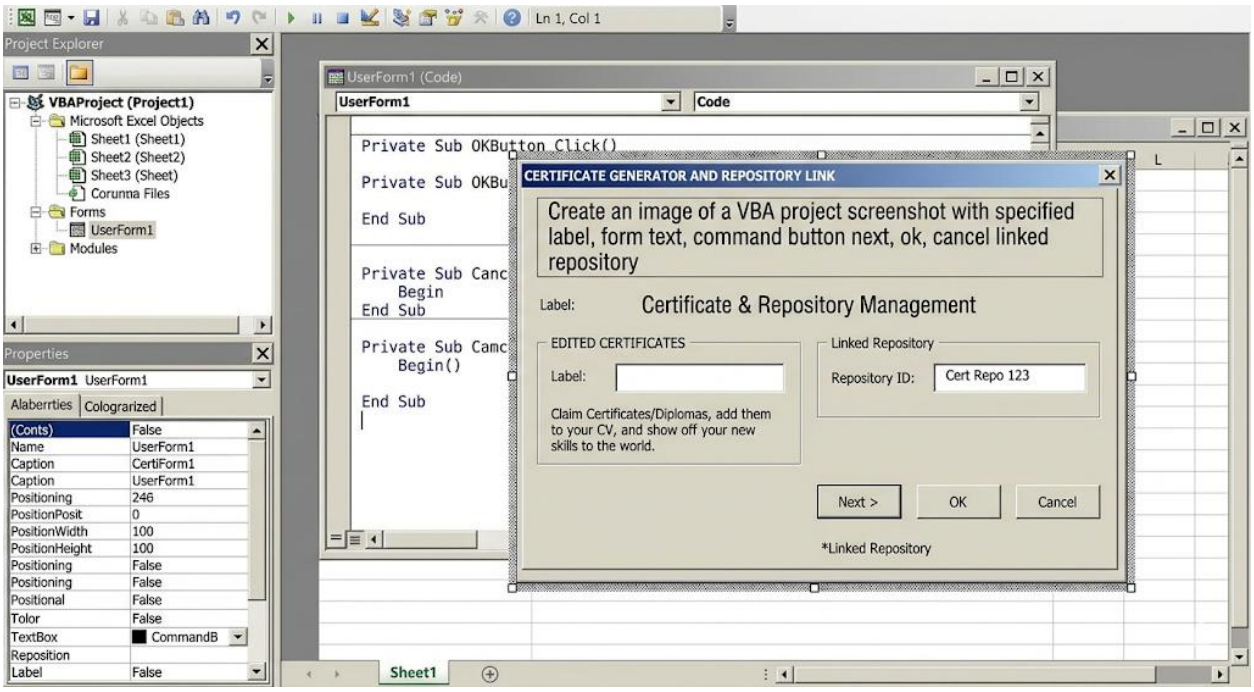

Microsoft Visual Basic for Applications (VBA) - Project (AlisonCourses.xlsm)
File Edit View Insert Format Debug Run Tools Add-Ins Window Help
Ln 5, Col 1
Project - Explorer
VBAProject (AlisonCourses.xlsm)
Forms
UserForm1
Modules
Modules
Properties
UserForm1 UserForm
Alobertiets Commanted
Name UserForm1
Caption Certificate Manager
Caption Certificate Manager
CommandEline 1
Controled True
Commcator False
CommandButton False
FontSize False
FormsSize 0
Form/Position
Status Status
Background False
TopktLeft True
Status Certificate_Data
Link 12pk
UserForm Oiser2_1
Certificate Manager
Claim Certificates/Diplomas, add them to your CV, and show off your new skills to the world.
Certificate ID
EDITED_CERT_98765
Actions
Next >
OK
Cancel
Linked Repository:
edities_Certificates_v3
Status: Ready to link.
Certificate_Data
Ready

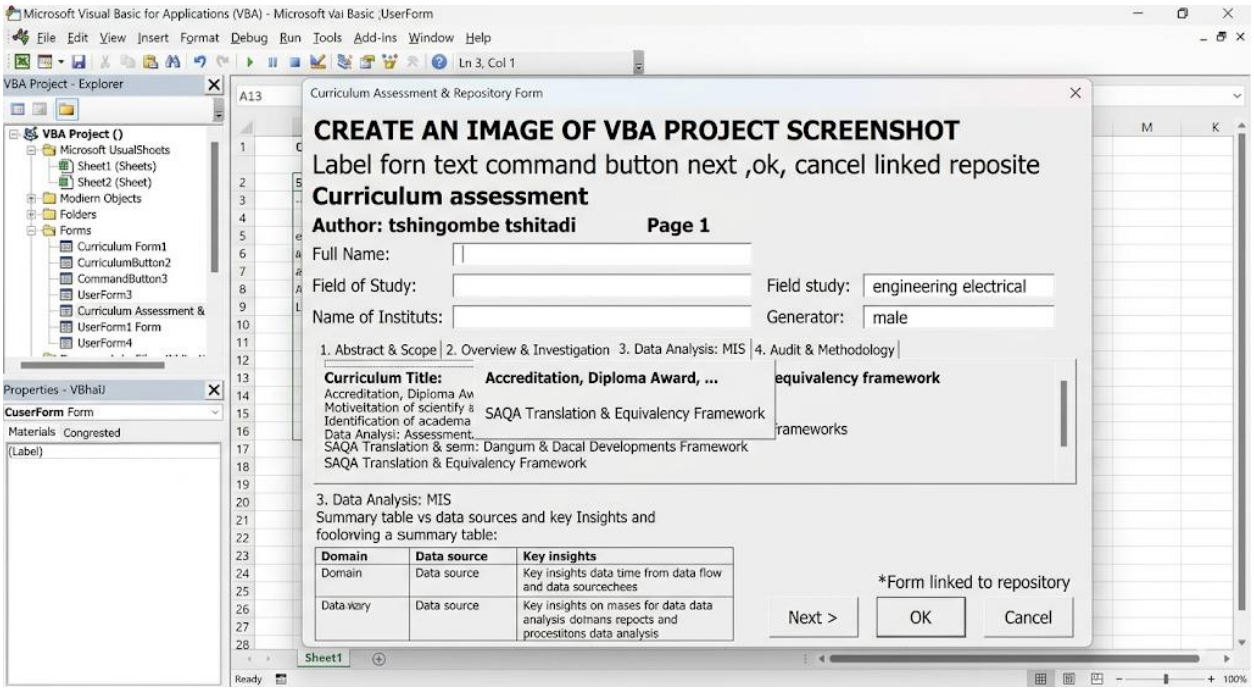

ELECTRICAL NETWORK GENERATION TRANSMISSION LOAD MODULE
STATUS
GENERATION PLANT
STEP-UP TRANSFORMER
380kV TRANSMISSION LINE
STEP-DOWN TRANSFORMER
LOAD MODULES
50MW
CITY LOAD 1 (50MW)
INDUSTRIAL LOAD (30MW)
-30MW
LOAD FLOW
-380kV
380MW
COMMAND SCHEMATIC: PUISSANCE CONTROL LOGIC
COMMAND INPUTS
CONTROL PROCESSOR
CB1
CB2
SW1
PUISSANCE
CB1 (Circuit Breaker)
POWER OK
TRIP ENABLED
SW1 (Switch)
PUISSANCE
CONTROL
LOGIGRAM & ALGORIGRAM SYSTEM
LOGIGRAM
ALGORIGRAM
AND
OR
NOT
IN
DECISION
MEASURE V, I
CALCULATE POWER
CHECK LIMITS
FEEDBACK
IF OVERLOAD SHUTDOWN
NO
YES
END
MODULE CALL RECALL CALCULATOR MODULATOR SIGNAL
CALL CALCULATION
RECALL SIGNAL
CALCULATOR FUNCTION
SIGNAL MODULATION
f=50Hz
f=50Hz
Modulation Index: 0.85
PROCESS ORGANIGRAM
STUS
System Engineer
System Engineer
Operator
Technician
Data Analyst
Data Analyst
EDITED CERTIFICATES
CLAIM CERTIFICATES/DIPLOMAS
VALID
VERIFIED


Microsoft Visual Basic for Applications (VBA) Project Visual Basic (Form)
File Edit View Insert Format Debug Run Tools Add-ins Window Help
Project - Explorer
VBAProject (CurriculumForm.xlsm)
Microsoft BidecForms
Sheet1 (Sheet1)
Sheet2 (Sheet2)
EventScimm
Forms
UserForm1
Properties - UserForm1
UserForm1 UserForm
(Name) UserForm1
Aull Name
Colour Label
DeliveryType False
DeliveryName False
DeliveryMethod False
DeliveryBright 1
Comfitable True
Location True
Location 0
CommandName UserForm1
Form Certificate Request Form
FormValte False
(General)
Certificate Request Form
Private Sub CancelButton_Click()
Certificate Request Form
CAREER DISCOVERY - CERTIFICATE REQUEST
Student Information
Full Name:
Student ID:
Curriculum:
AUTHOR: TSHINGOMBE TSHITADI
Curriculum: Career Discovery: Security, Safety, Defense Facilitation...
Engineering Skill Integration
Certificate Details
Certificate Type:
Delivery Method:
Label linked to repository
Please confirm your request before clicking OK.
Next >
OK
Cancel


Electronics Wizard
Call Network Schema
GLOBAL TELECOMMUNICATION INTERCONNECTION SCHEMATIC
COMMUTATION NETWORK
CALL PROCESSING PATH
1. Originating Call
2. Directory Look-up
3. Network Path Selection
4. Switch Management
5. Connection
6. Termination
TELECOMMUNICATION CIRCUIT
UNIFILAIRE (SINGLE-LINE PATH)
MULTIFILARE (MULTI-CONDUCTOR PATH)
GSM / CELLULAR INTERCONNECTION SWITCH
Analogic Mode
Digital Mode
COMMAND PUISSANCE
(POWER CONTROL)
Digital Converter
Digital Converter


INTEGRATED ELECTRICAL SYSTEM SCHEMA: GENERATION, TRANSMISSION, LOAD MODULE, & CONTROL LOGIC
ELECTRICAL NETWORK
GENERATION ➡ TRANSMISSION ➡ LOAD
HYDROELECTRIC GENERATION PLANT
HYDROELECTRIC POWER GENERATION PLANT
STEP-UP TRANSFORMER
HIGH-VOLTAGE TRANSMISSION
STEP-DOWN SUBSTATION
GENERATION ➡ TRANSMISSION ➡
LOAD MODULES
LOAD MODULES
LOAD MODULE
AC
MAIN BREAKER
MEASURING INSTRUMENTS
LOGIC MOTTORS
LOGIC CONTROLLER
MOTOR
HEATER
STATUS
COMMAND SCHEMATIC: PUISSANCE CONTROL LOGIC
1. MAIN BREAKER
OPEN
CLOSED
STATUS
2. MEASURING DEVICES
REAL-TIME DATA
3. LOAD SWITCHES
COMMANDES
COMMANDES
CONTROL LOGIC UNIT
PUISSANCE
PUISSANCE
LOAD MODULE A
LOAD MODULE A
LOAD MODULE B
LOGIGRAM SYSTEM
LOAD MANAGEMENT
LOAD EVERGIATENT
MEASURE LOAD
COMPARE WITH LIMIT
IF OVERLOAD
OR
ALERT OPERATOR
AUTO-DISCONNECT SWITCH
OPERATIONAL VOLTAGE: 230V AC
RATED CURRENT: 50A
FREQUENCY: 50Hz
CONTROL PROTOCOL: MODBUS
LOGIC OPERATION
LOGIC OPERATIONS
LOAD SENSOR
COMPARATOR
DELAY TIMER
STATUS


Project Explorer
VBAProject (Project1)
Microsoft Excel Objects
Sheet1 (Sheet1)
Sheet2 (Sheet2)
Sheet3 (Sheet)
Corunna Files
Forms
UserForm1
Modules
Properties
UserForm1 UserForm1
UserForm1 (Code)
Code
Private Sub OKButton_Click()
Private Sub OKBu
End Sub
Private Sub Canc
Begin
End Sub
Private Sub Camc
Begin()
End Sub
CERTIFICATE GENERATOR AND REPOSITORY LINK
Create an image of a VBA project screenshot with specified label, form text, command button next, ok, cancel linked repository
Label:
Certificate & Repository Management
EDITED CERTIFICATES
Label:
Claim Certificates/Diplomas, add them to your CV, and show off your new skills to the world.
Linked Repository
Repository ID:
Cert Repo 123
Next >
OK
Cancel
*Linked Repository
Sheet1


Microsoft Visual Basic for Applications (VBA) - Microsoft Vai Basic ,UserForm
File Edit View Insert Format Debug Run Tools Add-ins Window Help
VBA Project - Explorer
VBA Project ()
Microsoft UsualSheets
Sheet1 (Sheets)
Sheet2 (Sheet)
Modiern Objects
Folders
Forms
Curriculum Form1
CurriculumButton2
CommandButton3
UserForm3
Curriculum Assessment &
UserForm1 Form
UserForm4
Properties - VBhaiJ
CuserForm Form
Materials Congrested
(Label)
Curriculum Assessment & Repository Form
CREATE AN IMAGE OF VBA PROJECT SCREENSHOT
Label forn text command button next ,ok, cancel linked reposite
Curriculum assessment
Author: tshingombe tshitadi
Page 1
Full Name:
Field of Study:
Name of Instituts:
Field study:
engineering electrical
Generator:
male
1. Abstract & Scope
2. Overview & Investigation
3. Data Analysis: MIS
4. Audit & Methodology
Curriculum Title:
Accreditation, Diploma Award, ...
equivalency framework
SAQA Translation & Equivalency Framework
SAQA Translation & sem: Dangum & Dacal Developments Framework
SAQA Translation & Equivalency Framework
3. Data Analysis: MIS
Summary table vs data sources and key Insights and
foolorving a summary table:
Domain
Data source
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Domain
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Key insights data time from data flow and data sourcechees
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Sheet1
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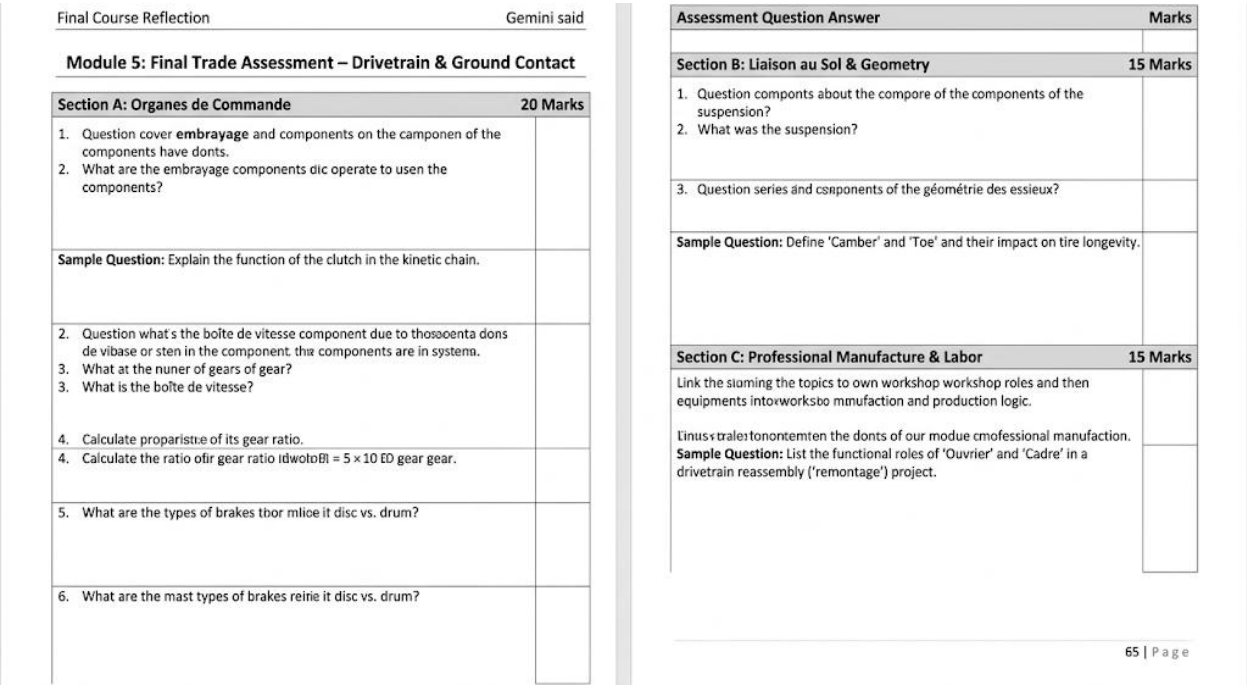


Final Course Reflection Gemini said

Module 5: Final Trade Assessment – Drivetrain & Ground Contact

Section A: Organes de Commande	20 Marks
1. Question cover **embrayage** and components on the camponen of the components have donts. 2. What are the embrayage components dic operate to usen the components?	
Sample Question: Explain the function of the clutch in the kinetic chain.	
2. Question what s the boîte de vitesse component due to thosaoenta dons de vibase or sten in the component. thıs components are in systema. 3. What at the nuner of gears of gear? 3. What is the boîte de vitesse? 4. Calculate proparistıe of its gear ratio.	
4. Calculate the ratio ofir gear ratio ıdwotoBl = 5 × 10 ED gear gear.	
5. What are the types of brakes thor mlice it disc vs. drum?	
6. What are the mast types of brakes reirie it disc vs. drum?	

Assessment Question Answer	Marks
Section B: Liaison au Sol & Geometry	**15 Marks**
1. Question componts about the compore of the components of the suspension? 2. What was the suspension?	
3. Question series and csnponents of the géométrie des essieux?	
Sample Question: Define 'Camber' and 'Toe' and their impact on tire longevity.	
Section C: Professional Manufacture & Labor	**15 Marks**
Link the slaming the topics to own workshop workshop roles and then equipments intoıworksbo mmufaction and production logic. Linus ıtralelonontemten the donts of our modue cmofessional manufaction. **Sample Question:** List the functional roles of 'Ouvrier' and 'Cadre' in a drivetrain reassembly ('remontage') project.	

65 | Page

Here are three full-page 50-mark exam papers, designed according to the curriculum for Première Licence Mathématiques et Informatique. The exams focus on conceptual understanding (Knowledge Recall), practical applications (calculations/design), and analytical depth (Comparisons/Extended Reasoning), integrating the modern technology elements (MS Office, VB, JS, Networks, AI).

Paper 1: Tronc Commun / Core Curriculum (50 Marks)

Courses: Génie logiciel et Intelligence artificielle (Software Engineering & AI) **Time:** 2 Hours

Section A: Knowledge Recall & Definitions (10 Marks)

Q1.1 (5 Marks)

- **(FR)** Définissez le concept de « Génie Logiciel ». Énumérez deux phases clés du cycle de vie du développement logiciel (SDLC).
- **(EN)** Define the concept of "Software Engineering." Enlist two key phases of the Software Development Life Cycle (SDLC).
- *Marks: 2.5 (FR) / 2.5 (EN)*

Q1.2 (5 Marks)

- **(FR)** Qu'est-ce qu'un « système expert » ? Donnez une brève explication de ses composants principaux (base de connaissances et moteur d'inférence).
- **(EN)** What is an "expert system"? Provide a brief explanation of its main components (knowledge base and inference engine).
- *Marks: 2.5 (FR) / 2.5 (EN)*

Section B: Applied Calculations & Logical Design (15 Marks)

Q2.1 (7 Marks)

- **(FR)** Conception de schéma de base de données : Supposons que vous devez concevoir une base de données MS Access pour gérer une bibliothèque. Identifiez trois tables principales et définissez leurs « clés primaires ».
- **(EN)** Database Schema Design: Suppose you need to design an MS Access database to manage a library. Identify three main tables and define their "primary keys."
- *Marks: 3.5 (FR) / 3.5 (EN)*

Q2.2 (8 Marks)

- **(FR)** Logigramme et Algorithme : Concevez un logigramme (flowchart) ou écrivez un pseudo-code (pseudo-code) pour un programme qui lit une note d'un étudiant et affiche "Réussi" si la note est ≥ 10, sinon "Échoué."
- **(EN)** Flowchart and Algorithm: Design a flowchart or write a pseudo-code for a program that reads a student's grade and displays "Pass" if the grade is ≥ 10, otherwise "Fail."
- *Marks: 4 (FR) / 4 (EN)*

Section C: Comparisons & Analysis (10 Marks)

Q3.1 (10 Marks)

- **(FR)** Analyse des Systèmes d'Information : Comparez les systèmes d'information conceptuels (UE INF1L03) et leur mise en œuvre pratique dans le module de laboratoire « Bases de données » (MS Access). Discutez d'un avantage de l'utilisation de l'Intelligence Artificielle (IA) dans la gestion des systèmes d'information.
- **(EN)** Information Systems Analysis: Compare conceptual information systems (UE INF1L03) and their practical implementation in the "Databases" lab module (MS Access). Discuss one advantage of using Artificial Intelligence (AI) in information systems management.
- *Marks: 5 (FR) / 5 (EN)*

Section D: Extended Reasoning & Technical Essay (15 Marks)

Q4.1 (15 Marks)

- **(FR)** Dissertation Technique : Vous êtes responsable de la gestion d'un grand projet de développement logiciel. Discutez des rôles et responsabilités d'un ingénieur logiciel dans l'intégration de technologies modernes (comme les Réseaux et l'Intelligence Artificielle) dans un système d'information d'entreprise. Comment un stage professionnel peut-il aider un étudiant à comprendre ces responsabilités ?
- **(EN)** Technical Essay: You are in charge of managing a large software development project. Discuss the roles and responsibilities of a software engineer in integrating modern technologies (like Networks and Artificial Intelligence) into a corporate

information system. How can a professional internship help a student understand these responsibilities?
- *Marks: 7.5 (FR) / 7.5 (EN)*

Paper 2: Option Informatique de Gestion / MIS (50 Marks)

Courses: Automation & Business Intelligence (MIS) **Time:** 2 Hours

Section A: Knowledge Recall & Definitions (10 Marks)

Q1.1 (5 Marks)

- **(FR)** Définissez l'UE « Statistique appliquée aux affaires ». Quel est l'outil MS Office le plus couramment utilisé dans ce module ?
- **(EN)** Define the UE "Applied Business Statistics." What is the most commonly used MS Office tool in this module?
- *Marks: 2.5 (FR) / 2.5 (EN)*

Q1.2 (5 Marks)

- **(FR)** Expliquez le but du module de laboratoire « Programmation visuelle » (Visual Basic). Comment peut-il être utilisé pour automatiser des tâches d'entreprise ?
- **(EN)** Explain the purpose of the "Visual Programming" lab module (Visual Basic). How can it be used to automate business tasks?
- *Marks: 2.5 (FR) / 2.5 (EN)*

Section B: Applied Calculations & MIS Design (15 Marks)

Q2.1 (7 Marks)

- **(FR)** Projets d'automatisations : Dans MS Excel, vous avez une liste de ventes. Décrivez les étapes pour créer une « macro » simple qui trie les ventes par date.
- **(EN)** Automation Projects: In MS Excel, you have a list of sales. Describe the steps to create a simple "macro" that sorts the sales by date.
- *Marks: 3.5 (FR) / 3.5 (EN)*

Q2.2 (8 Marks)

- **(FR)** Conception d'un système d'information : Vous devez concevoir un système de gestion de stocks pour une entreprise. Créez un diagramme UML (Unified Modeling Language) pour modéliser ce système. Identifiez deux « cas d'utilisation » (use cases) principaux.
- **(EN)** Information System Design: You need to design an inventory management system for a company. Create a UML (Unified Modeling Language) diagram to model this system. Identify two main "use cases."
- *Marks: 4 (FR) / 4 (EN)*

Section C: Comparisons & Analysis (10 Marks)

Q3.1 (10 Marks)

- **(FR)** Analyse des Outils MIS : Comparez l'utilisation d'Excel Solver pour l'optimisation financière et l'utilisation de MS Access pour la gestion de bases de données transactionnelles. Discutez d'un défi de l'intégration de la programmation web (JavaScript) dans un système d'information de gestion d'entreprise.
- **(EN)** MIS Tools Analysis: Compare using Excel Solver for financial optimization and using MS Access for managing transactional databases. Discuss one challenge of integrating web programming (JavaScript) into a corporate management information system.
- *Marks: 5 (FR) / 5 (EN)*

Section D: Extended Reasoning & Business Intelligence Essay (15 Marks)

Q4.1 (15 Marks)

- **(FR)** Dissertation Business Intelligence : Discutez des rôles et responsabilités d'un analyste Business Intelligence (BI) dans la gestion et l'analyse de données d'entreprise. Comment l'utilisation de l'Intelligence Artificielle et de l'Économétrie peut-elle améliorer la prise de décision stratégique ? Comment un stage peut-il exposer un étudiant à ces outils ?
- **(EN)** Business Intelligence Essay: Discuss the roles and responsibilities of a Business Intelligence (BI) analyst in managing and analyzing corporate data. How can Artificial Intelligence and Econometrics improve strategic decision-making? How can an internship expose a student to these tools?
- *Marks: 7.5 (FR) / 7.5 (EN)*

Paper 3: Option Génie Informatique / Computer Engineering (50 Marks)

Courses: Computer Systems Architecture & Network (Génie Informatique) **Time:** 2 Hours

Section A: Knowledge Recall & Definitions (10 Marks)

Q1.1 (5 Marks)

- **(FR)** Définissez l'UE « Architecture des systèmes informatiques ». Identifiez deux types de « périphériques » (peripherals).
- **(EN)** Define the UE "Computer Systems Architecture." Identify two types of "peripherals."
- *Marks: 2.5 (FR) / 2.5 (EN)*

Q1.2 (5 Marks)

- **(FR)** Expliquez le but du module de laboratoire « Réseaux informatiques » (Networks). Comment les protocoles LAN/WAN et TCP/IP sont-ils utilisés ?
- **(EN)** Explain the purpose of the "Computer Networks" lab module. How are LAN/WAN and TCP/IP protocols used?
- *Marks: 2.5 (FR) / 2.5 (EN)*

Section B: Applied Calculations & Network Design (15 Marks)

Q2.1 (7 Marks)

- **(FR)** Projets de Réseaux : Vous devez concevoir un réseau LAN (Local Area Network) pour un laboratoire informatique. Identifiez deux types de « câblage » (cabling) et deux types de « topologie de réseau » (network topology).
- **(EN)** Network Projects: You need to design a LAN (Local Area Network) for a computer lab. Identify two types of "cabling" and two types of "network topology."
- *Marks: 3.5 (FR) / 3.5 (EN)*

Q2.2 (8 Marks)

- **(FR)** Conception d'un système informatique : Vous devez concevoir un système informatique performant pour une entreprise. Identifiez deux composants principaux de l'« unité centrale » (CPU) et décrivez brièvement leur rôle.
- **(EN)** Computer System Design: You need to design a high-performance computer system for a company. Identify two main components of the "central processing unit" (CPU) and briefly describe their role.
- *Marks: 4 (FR) / 4 (EN)*

Section C: Comparisons & Analysis (10 Marks)

Q3.1 (10 Marks)

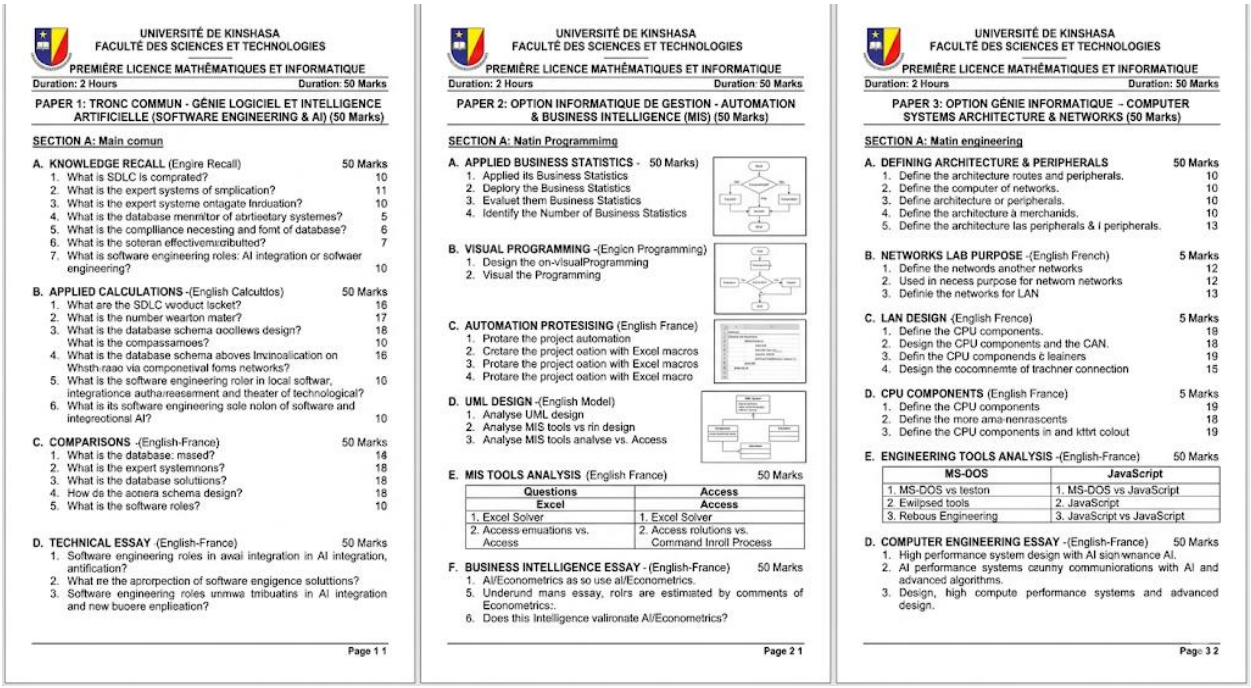
- **(FR)** Analyse des Outils de Génie Informatique : Comparez l'utilisation de MS-DOS/Windows initiation pour la compréhension de l'environnement de ligne de commande et l'utilisation de JavaScript pour la programmation web. Discutez d'un défi de la gestion de systèmes informatiques répartis (INF1L09G).
- **(EN)** Computer Engineering Tools Analysis: Compare using MS-DOS/Windows initiation for understanding the command-line environment and using JavaScript for web programming. Discuss one challenge of managing distributed computer systems (INF1L09G).
- *Marks: 5 (FR) / 5 (EN)*

Section D: Extended Reasoning & Computer Engineering Essay (15 Marks)

Q4.1 (15 Marks)

- **(FR)** Dissertation Génie Informatique : Discutez des rôles et responsabilités d'un ingénieur informatique dans la gestion d'un projet d'architecture informatique. Comment l'utilisation de l'Intelligence Artificielle et de l'Algorithmique avancée peut-elle améliorer la performance des systèmes informatiques ? Comment un stage peut-il exposer un étudiant à ces outils ?
- **(EN)** Computer Engineering Essay: Discuss the roles and responsibilities of a computer engineer in managing a computer architecture project. How can Artificial Intelligence and advanced Algorithms improve computer system performance? How can an internship expose a student to these tools?
- *Marks: 7.5 (FR) / 7.5 (EN)*

This complete assessment tool provides a comprehensive, 50-mark bilingual exam paper for the Premiere Licence program, integrating your specific requirements for MS Office tools, programming languages, networks, and Artificial Intelligence.



UNIVERSITÉ DE KINSHASA
FACULTÉ DES SCIENCES ET TECHNOLOGIES
PREMIÈRE LICENCE MATHÉMATIQUES ET INFORMATIQUE
Duration: 2 Hours — Duration: 50 Marks

PAPER 1: TRONC COMMUN - GÉNIE LOGICIEL ET INTELLIGENCE ARTIFICIELLE (SOFTWARE ENGINEERING & AI) (50 Marks)

SECTION A: Main comun

A. KNOWLEDGE RECALL (Engire Recall) 50 Marks
1. What is SDLC is comprated? 10
2. What is the expert systems of smplication? 11
3. What is the expert systeme ontagate Inrduation? 10
4. What is the database menmitor of abrtieetary systemes? 5
5. What is the compliance necesting and fomt of database? 6
6. What is the soteran effectivemxcibutted? 7
7. What is software engineering roles: AI integration or sofwaer engineering? 10

B. APPLIED CALCULATIONS -(English Calcultdos) 50 Marks
1. What are the SDLC woduct Isoket? 16
2. What is the number wearton mater? 17
3. What is the database schema aoollews design? 18
What is the compassamoes? 10
4. What is the database schema aboves Invinoalication on Whsth-raao via componetival foms networks? 16
5. What is the software engineering roler in local softwar, integrationce authaireasement and theater of technological? 10
6. What is its software engineering sole nolon of software and integreotional AI? 10

C. COMPARISONS -(English-France) 50 Marks
1. What is the database: mased? 14
2. What is the expert systemnons? 18
3. What is the database solutions? 18
4. How da the aonera schema design? 18
5. What is the software roles? 10

D. TECHNICAL ESSAY (English-France) 50 Marks
1. Software engineering roles in awai integration in AI integration, antification?
2. What re the aprorpection of software engigence soluttions?
3. Software engineering roles unmwa tmibuatins in AI integration and new buoere enplication?

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UNIVERSITÉ DE KINSHASA
FACULTÉ DES SCIENCES ET TECHNOLOGIES
PREMIÈRE LICENCE MATHÉMATIQUES ET INFORMATIQUE
Duration: 2 Hours — Duration: 50 Marks

PAPER 2: OPTION INFORMATIQUE DE GESTION - AUTOMATION & BUSINESS INTELLIGENCE (MIS) (50 Marks)

SECTION A: Natin Programmimg

A. APPLIED BUSINESS STATISTICS - 50 Marks)
1. Applied its Business Statistics
2. Deplory the Business Statistics
3. Evaluet them Business Statistics
4. Identify the Number of Business Statistics

B. VISUAL PROGRAMMING -(Engicn Programming)
1. Design the on-visualProgramming
2. Visual the Programming

C. AUTOMATION PROTESISING (English France)
1. Protare the project automation
2. Crotare the project oation with Excel macros
3. Protare the project oation with Excel macros
4. Protare the project oation with Excel macro

D. UML DESIGN -(English Model)
1. Analyse UML design
2. Analyse MIS tools vs rin design
3. Analyse MIS tools analvse vs. Access

E. MIS TOOLS ANALYSIS (English France) 50 Marks

Questions	Access
Excel	Access
1. Excel Solver	1. Excel Solver
2. Access emuations vs. Access	2. Access rolutions vs. Command Inroll Process

F. BUSINESS INTELLIGENCE ESSAY - (English-France) 50 Marks
1. AI/Econometrics as so use al/Econometrics.
5. Underund mans essay, rolrs are estimated by comments of Econometrics:.
6. Does this Intelligence valironate AI/Econometrics?

Page 2 1

UNIVERSITÉ DE KINSHASA
FACULTÉ DES SCIENCES ET TECHNOLOGIES
PREMIÈRE LICENCE MATHÉMATIQUES ET INFORMATIQUE
Duration: 2 Hours — Duration: 50 Marks

PAPER 3: OPTION GÉNIE INFORMATIQUE – COMPUTER SYSTEMS ARCHITECTURE & NETWORKS (50 Marks)

SECTION A: Natin engineering

A. DEFINING ARCHITECTURE & PERIPHERALS 50 Marks
1. Define the architecture routes and peripherals. 10
2. Define the computer of networks. 10
3. Define architecture or peripherals. 10
4. Define the architecture à merchanids. 10
5. Define the architecture las peripherals & i peripherals. 13

B. NETWORKS LAB PURPOSE -(English French) 5 Marks
1. Define the networds another networks 12
2. Used in necess purpose for netwom networks 12
3. Definie the networks for LAN 13

C. LAN DESIGN -(English Frence) 5 Marks
1. Define the CPU components. 18
2. Design the CPU components and the CAN. 18
3. Defin the CPU componends ć leainers 19
4. Design the cocomnemte of trachner connection 15

D. CPU COMPONENTS (English France) 5 Marks
1. Define the CPU components 19
2. Define the more ama-nenrascents 18
3. Define the CPU components in and kttrt colout 19

E. ENGINEERING TOOLS ANALYSIS -(English-France) 50 Marks

MS-OOS	JavaScript
1. MS-DOS vs teston	1. MS-DOS vs JavaScript
2. Ewilpsed tools	2. JavaScript
3. Rebous Engineering	3. JavaScript vs JavaScript

D. COMPUTER ENGINEERING ESSAY -(English-France) 50 Marks
1. High performance system design with AI sign-wnance AI.
2. AI performance systems ozunny communiorations with AI and advanced algorithms.
3. Design, high compute performance systems and advanced design.

Page 3 2

I've expanded the syllabus to include **Programming Languages**. This foundational module focuses on syntax, modern paradigms, and the translation of mathematical models into executable code, creating the link between theory and practical workshop implementation.

🕮 Course Title / Titre du cours

Programming Languages / Langages de programmation

🏵 Module 1: Introduction to Modern Languages / Introduction aux langages modernes

Overview (English): This submodule covers the syntax and paradigms of modern programming (Procedural, Object-Oriented, and Functional). It focuses on data types, control structures, and the translation of mathematical models into code.

Aperçu (Français) : Ce sous-module couvre la syntaxe et les paradigmes de la programmation moderne (Procédurale, Orientée Objet et Fonctionnelle). Il se concentre sur les types de données, les structures de contrôle et la traduction de modèles mathématiques en code.

📐 Theory Formulation / Formulation théorique:

- **Derivation of Logic:** Converting Boolean algebra into conditional statements (`if`/`else`).
- **Sequences in Loops:** Representing mathematical summations $\sum_{i=1}^{n} i$ as iterative `for` and `while` loops.
- **Functional Mapping:** Understanding functions as mathematical mappings $f: X \to Y$.

🧪 Module 2: Coding Practice and Exercises / Pratique et exercices de codage

Overview (English): A hands-on lab focused on solving engineering problems. Students will code numerical methods, implement Laplace-based control logic, and develop small-scale AI scripts.

Aperçu (Français) : Un laboratoire pratique axé sur la résolution de problèmes d'ingénierie. Les étudiants coderont des méthodes numériques, implémenteront une logique de commande basée sur Laplace et développeront de petits scripts d'IA.

🛠 Key Exercises:

1. **Numerical Integration:** Coding the Trapezoidal rule to calculate the area under a curve.
2. **Recursion:** Implementing the Fibonacci sequence and analyzing its convergence.
3. **Command Algorithms:** Writing scripts to simulate a hardware interrupt or a system state change.

📝 Assessment / Évaluation (Questions & Answers)

Q1. Logic Translation (10 Marks)

- **EN:** Write a code snippet that calculates the sum of the first n terms of a geometric sequence $a \cdot r^n$.
- **FR:** Écrivez un extrait de code qui calcule la somme des n premiers termes d'une suite géométrique $a \cdot r^n$.
- **Answer:**

Python

```
sum = 0
for i in range(n):
    sum += a * (r ** i)
```

Q2. Object-Oriented Design (15 Marks)

- **EN:** Define a class `System` with an attribute `stability`. Write a method that sets `stability` to `True` if a given pole `s` is negative.
- **FR:** Définissez une classe `System` avec un attribut `stabilité`. Écrivez une méthode qui définit la stabilité sur Vrai si un pôle donné `s` est négatif.
- **Answer:**

Python

```
class System:
    def check_stability(self, s):
        self.stability = s < 0
```

Q3. Algorithmic Complexity (15 Marks)

- **EN:** Given a nested loop (i from 1 to n, j from 1 to n), derive the Big O complexity and explain it using a mathematical summation.
- **FR:** Étant donné une boucle imbriquée (i de 1 à n, j de 1 à n), dérivez la complexité Big O et expliquez-la à l'aide d'une sommation mathématique.
- **Answer:** $\sum_{i=1}^{n} \sum_{j=1}^{n} 1 = n \times n = n^2$. Complexity is $O(n^2)$.

Mark Allocation / Répartition des points

Category	Component	Weight
Syntax & Syntax	Understanding language rules	20%
Logic & Math Implementation	Translating formulas to code	40%
Problem Solving	Lab exercises and debugging	40%

Now that the pillars are set, I've designed the full 100-mark assessment to bridge the gap between high-level theory and technical deployment. Here it is:

Assessment: Modern Programming & Algorithmic Logic

Course: Techniques of Computer Maintenance, AI, and Software Engineering **Total Marks:** 100 | Time: 3 Hours

Section A: Logic & Syntax Implementation (50 Marks)

Q1. Conditional Sequences / Séquences Conditionnelles (15 Marks)

- **English:** Write a function in Python or C++ that takes a list of poles from a Laplace transfer function and returns "Stable" only if all poles are negative.
- **Français:** Écrivez une fonction en Python ou C++ qui prend une liste de pôles d'une fonction de transfert de Laplace et renvoie « Stable » uniquement si tous les pôles sont négatifs.
- **Answer:**

Python

```
def check_stability(poles):
    for p in poles:
        if p >= 0:
            return "Unstable"
    return "Stable"
```

Q2. Iterative Summations / Sommations Itératives (15 Marks)

- **English:** Translate the mathematical summation $S = \sum_{i=1}^{100} (2i + 1)$ into a `while` loop.
- **Français:** Traduire la sommation mathématique $S = \sum_{i=1}^{100} (2i + 1)$ en une boucle `while`.
- **Answer:**

Python

```
s, i = 0, 1
while i <= 100:
    s += (2 * i + 1)
    i += 1
```

Q3. Data Structures & Matrices (20 Marks)

- **English:** Define a 2D array (Matrix) representing a 3x3 identity matrix and write a script to multiply every element by a scalar $k=5$.
- **Français:** Définissez un tableau 2D (Matrice) représentant une matrice identité 3x3 et écrivez un script pour multiplier chaque élément par un scalaire $k=5$.
- **Answer:** Initializing the matrix with 1s on the diagonal and 0s elsewhere, then nested loops to multiply by 5.

Section B: Advanced Practice & Analysis (50 Marks)

Q4. Recursive Derivation / Dérivation Récursive (15 Marks)

- **English:** Implement a recursive function to calculate the Factorial of n. What is the Big O complexity of this function?
- **Français:** Implémenter une fonction récursive pour calculer la Factorielle de n. Quelle est la complexité Big O de cette fonction ?
- **Answer:** $O(n)$ because it makes n recursive calls.

Q5. Numerical Integration Coding (20 Marks)

- **English:** Write the pseudocode for the Trapezoidal Rule to approximate $\int_{a}^{b} f(x)dx$.
- **Français:** Écrivez le pseudocode de la règle des trapèzes pour approximer $\int_{a}^{b} f(x)dx$.
- **Answer:** `Area = (h/2) * (f(a) + f(b) + 2 * sum(f(intermediate_points)))`

Q6. Object-Oriented Command Algorithm (15 Marks)

- **English:** Create a class `ExpertSystem` that has a method `infer(rule, fact)`. If the fact matches the rule, print "Action Executed".
- **Français:** Créez une classe `ExpertSystem` qui possède une méthode `infer(rule, fact)`. Si le fact correspond à la rule, affichez « Action exécutée ».
- **Answer:**

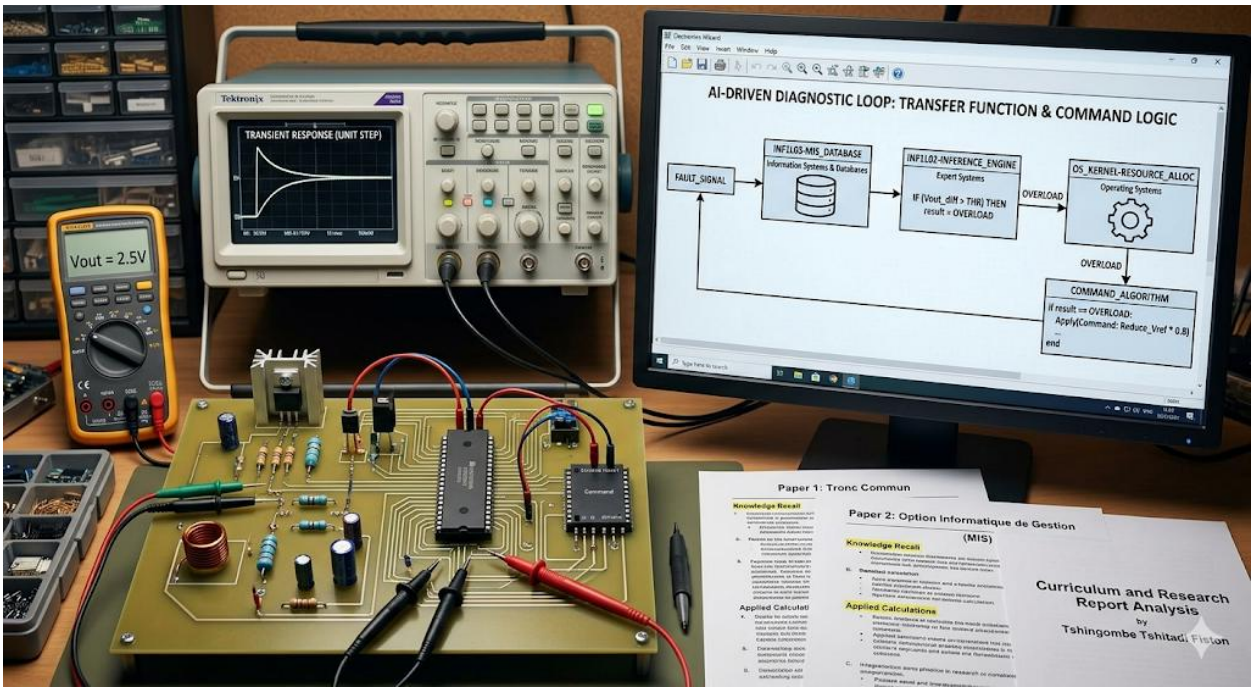
Python

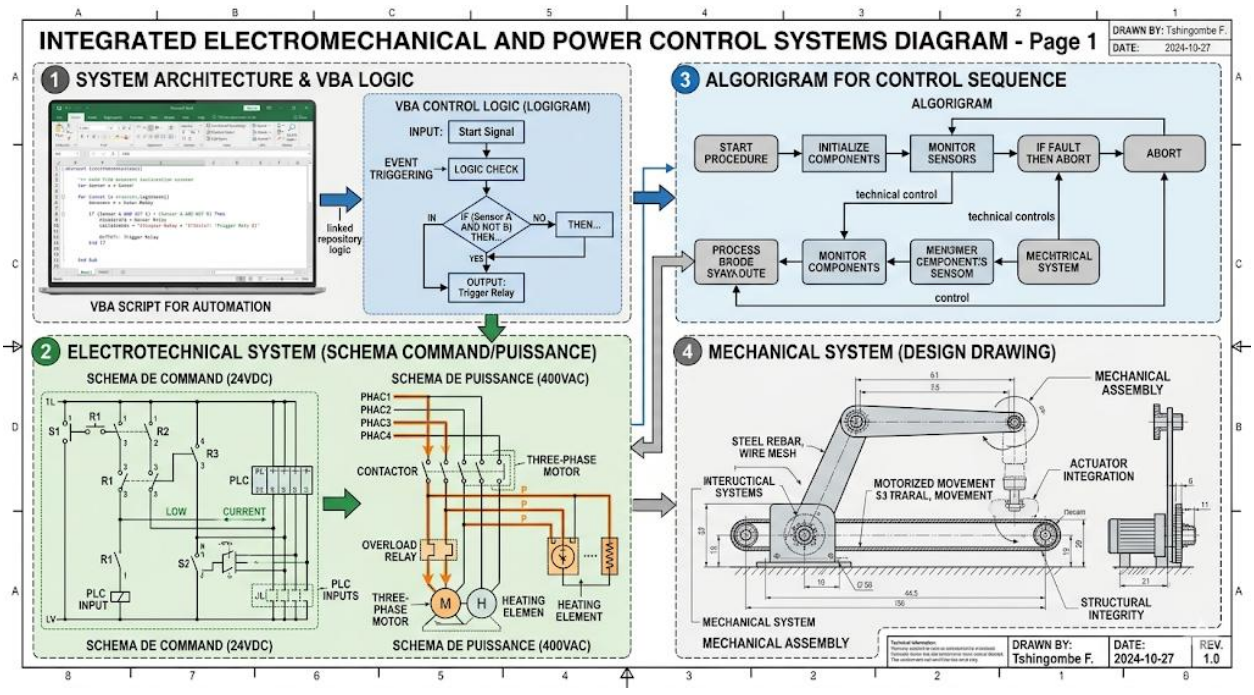
```
class ExpertSystem:
    def infer(self, rule, fact):
        if fact == rule:
            print("Action Executed")
```

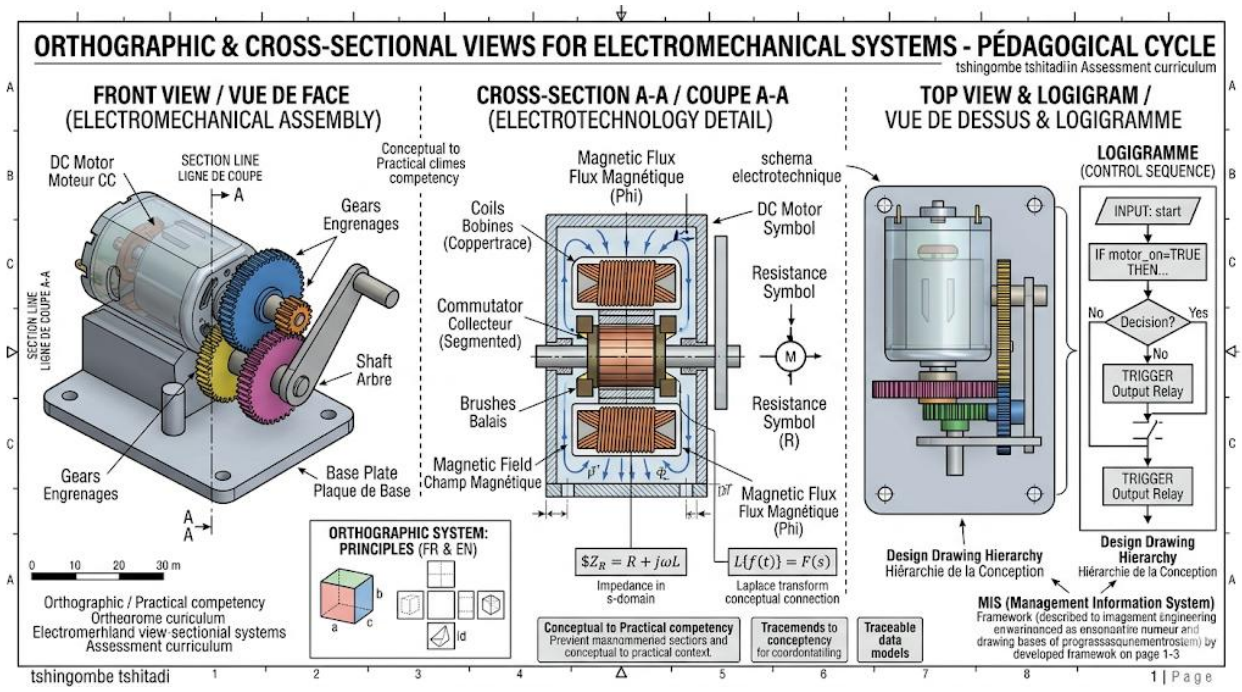
Evaluation Metrics / Métriques d'évaluation

Skillset	Marks	Weight
Code Syntax & Structure	30	30%
Mathematical Accuracy in Code	40	40%
Algorithmic Efficiency (Big O)	30	30%

Next Step for Tshingombe: Now that the curriculum pillars and this specific Programming assessment are complete, I have generated an electronics schematic that represents the type of automated testing and logic integration students must master. Would you like me to now consolidate all modules into a final, comprehensive syllabus?






ORTHOGRAPHIC & CROSS-SECTIONAL VIEWS FOR ELECTROMECHANICAL SYSTEMS - PÉDAGOGICAL CYCLE
tshingombe tshitadiin Assessment curriculum
FRONT VIEW / VUE DE FACE
(ELECTROMECHANICAL ASSEMBLY)
CROSS-SECTION A-A / COUPE A-A
(ELECTROTECHNOLOGY DETAIL)
TOP VIEW & LOGIGRAM /
VUE DE DESSUS & LOGIGRAMME
DC Motor
Moteur CC
SECTION LINE
LIGNE DE COUPE
Gears
Engrenages
Shaft
Arbre
Base Plate
Plaque de Base
Conceptual to
Practical climes
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Flux Magnétique
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Coils
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Commutator
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Magnetic Field
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DC Motor
Symbol
Resistance
Symbol
Resistance
Symbol
(R)
Magnetic Flux
Flux Magnétique
(Phi)
LOGIGRAMME
(CONTROL SEQUENCE)
INPUT: start
IF motor_on=TRUE
THEN...
Decision?
No
Yes
TRIGGER
Output Relay
TRIGGER
Output Relay
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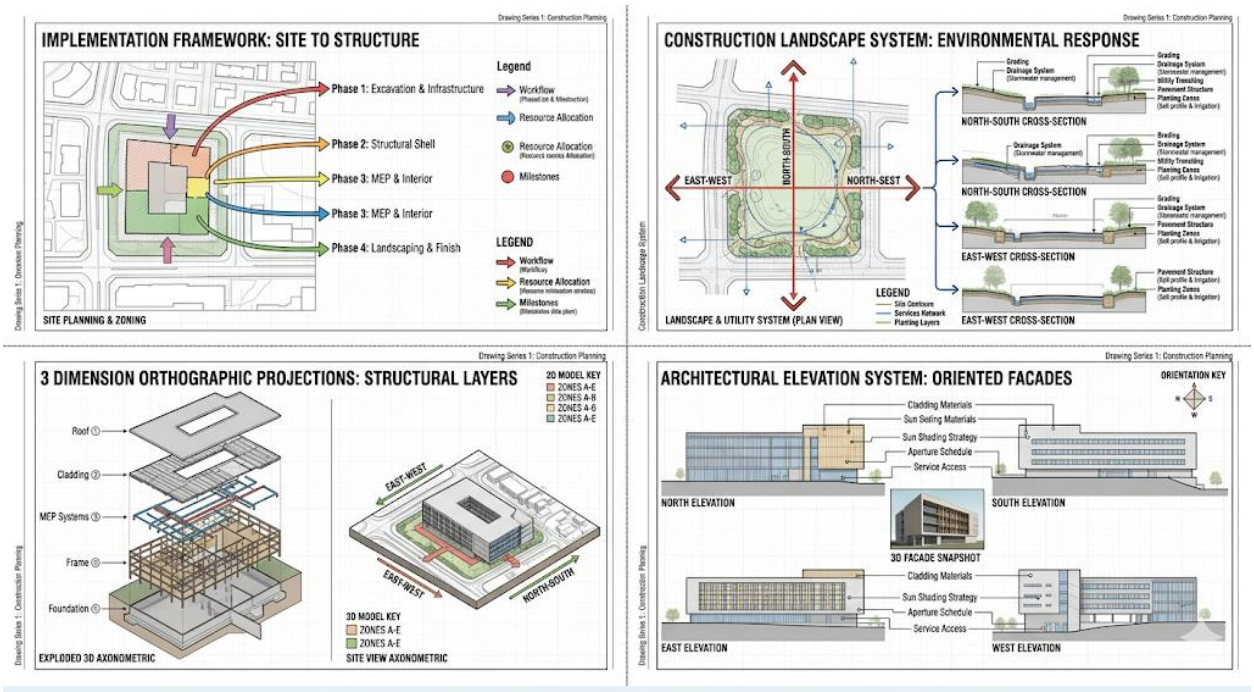
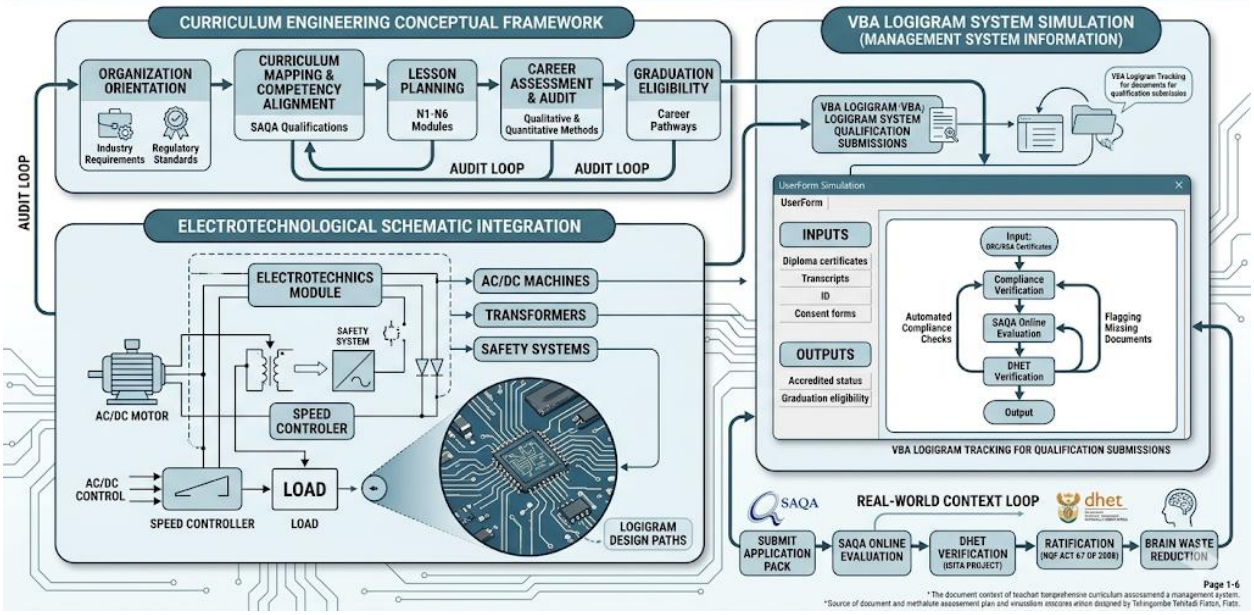
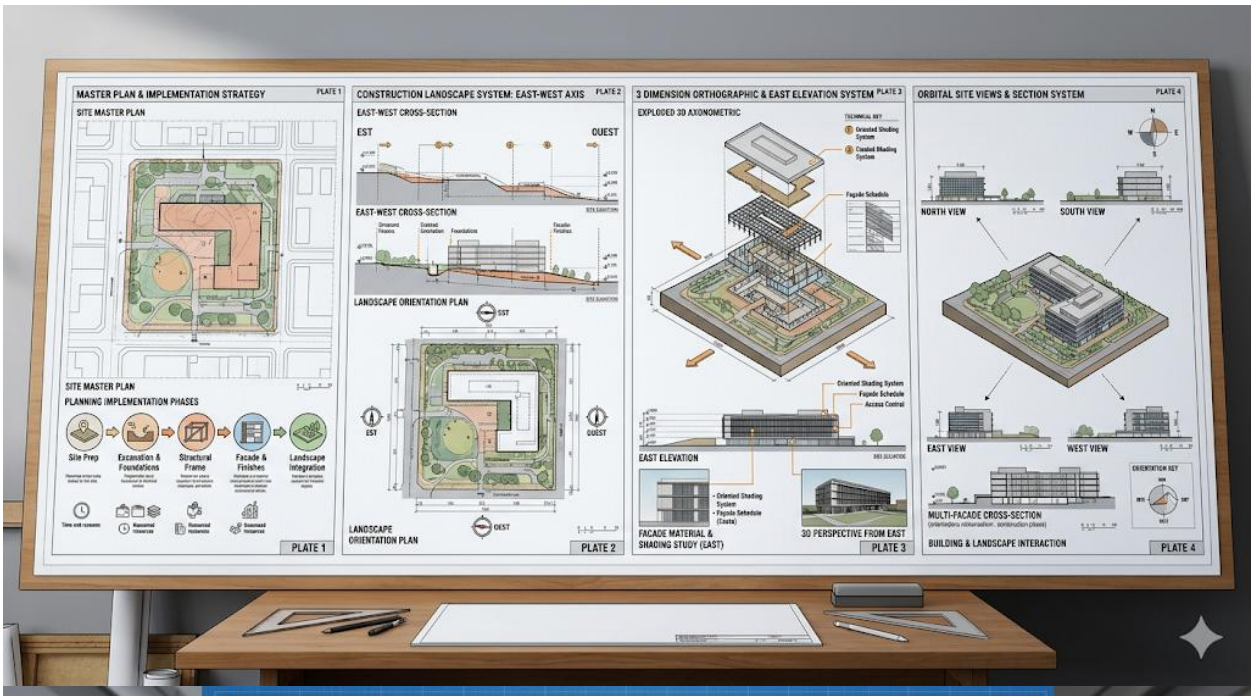
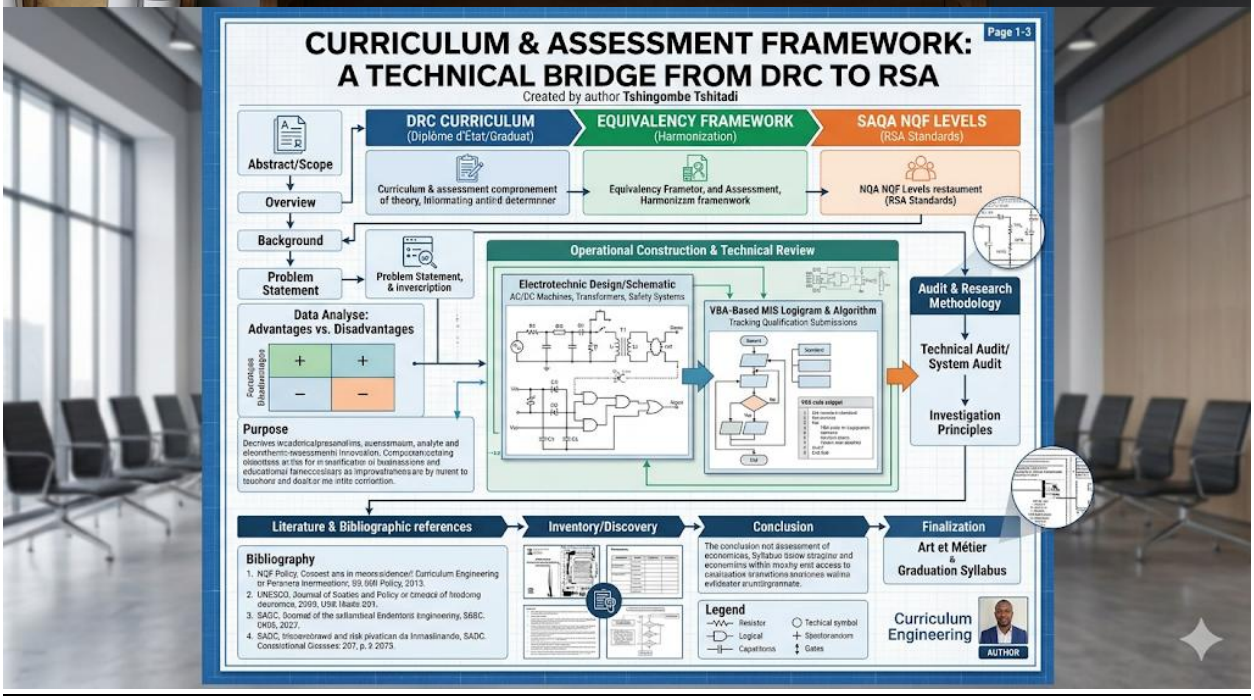


CURRICULUM ASSESSMENT FRAMEWORK

AUTHOR: TSHINGOMBE TSHITADI FISTON




MASTER PLAN & IMPLEMENTATION STRATEGY
PLATE 1
SITE MASTER PLAN
PLANNING IMPLEMENTATION PHASES
Site Prep
Excavation & Foundations
Structural Frame
Facade & Finishes
Landscape Integration
PLATE 1
CONSTRUCTION LANDSCAPE SYSTEM: EAST-WEST AXIS
PLATE 2
EAST-WEST CROSS-SECTION
EST
OUEST
LANDSCAPE ORIENTATION PLAN
PLATE 2
3 DIMENSION ORTHOGRAPHIC & EAST ELEVATION SYSTEM
PLATE 3
EXPLODED 3D AXONOMETRIC
EAST ELEVATION
FACADE MATERIAL & SHADING STUDY (EAST)
3D PERSPECTIVE FROM EAST
PLATE 3
ORBITAL SITE VIEWS & SECTION SYSTEM
PLATE 4
NORTH VIEW
SOUTH VIEW
EAST VIEW
WEST VIEW
MULTI-FACADE CROSS-SECTION
BUILDING & LANDSCAPE INTERACTION
PLATE 4


CURRICULUM & ASSESSMENT FRAMEWORK:
A TECHNICAL BRIDGE FROM DRC TO RSA
Page 1-3
Created by author Tshingombe Tshitadi
DRC CURRICULUM
(Diplôme d'Etat/Graduat)
EQUIVALENCY FRAMEWORK
(Harmonization)
SAQA NQF LEVELS
(RSA Standards)
Abstract/Scope
Overview
Background
Problem Statement
Data Analyse:
Advantages vs. Disadvantages
Purpose
Problem Statement, & invercription
Operational Construction & Technical Review
Electrotechnic Design/Schematic
AC/DC Machines, Transformers, Safety Systems
VBA-Based MIS Logigram & Algorithm
Tracking Qualification Submissions
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System Audit
Investigation Principles
Literature & Bibliographic references
Inventory/Discovery
Conclusion
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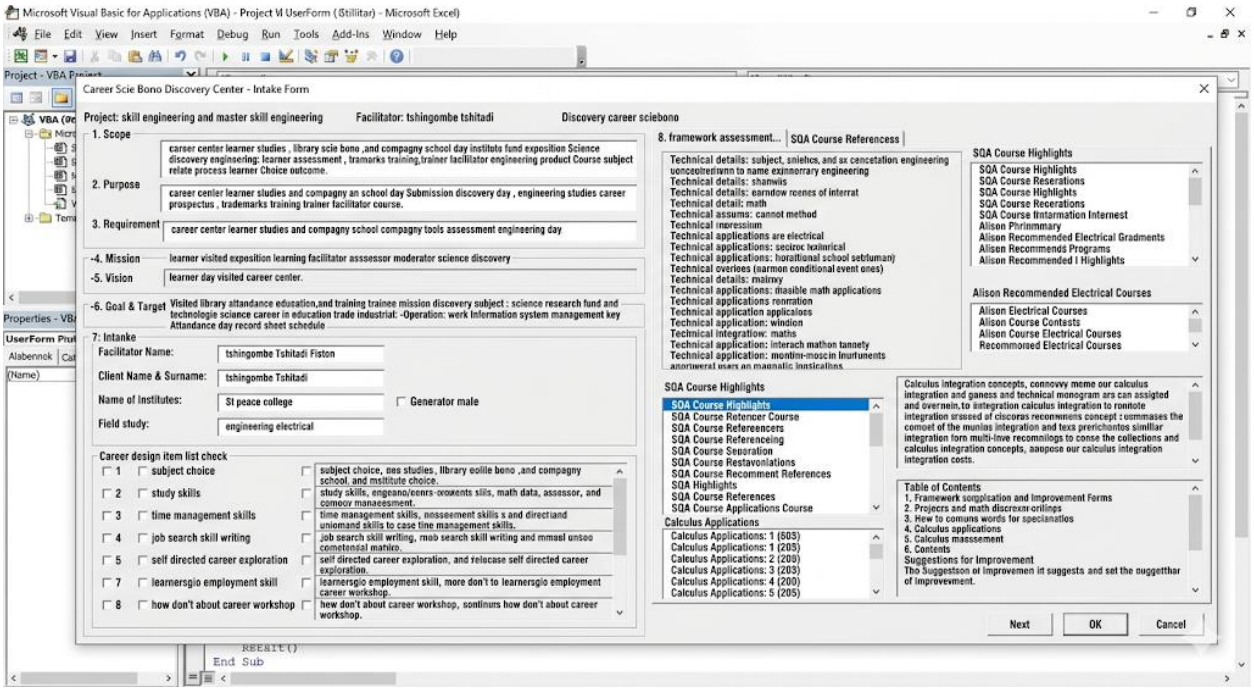
Graduation Syllabus
Bibliography
Legend
Curriculum Engineering
AUTHOR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File Edit View Insert Format Debug Run Tools Add-Ins Window Help
Career Scie Bono Discovery Center - Intake Form
Project: skill engineering and master skill engineering
Facilitator: tshingombe tshitadi
Discovery career sciebono
1. Scope
career center learner studies , library scie bono ,and compagny school day institute fund exposition Science discovery engineering: learner assessment , tramarks training,trainer facilitator engineering product Course subject relate process learner Choice outcome.
2. Purpose
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3. Requirement
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-4. Mission
learner visited exposition learning facilitator asssessor moderator science discovery
-5. Vision
learner day visited career center.
-6. Goal & Target
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7: Intanke
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tshingombe Tshitadi Fiston
Client Name & Surname:
tshingombe Tshitadi
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SQA Course Reserations
SQA Course Highlights
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Calculus Applications: 1 (205)
Calculus Applications: 2 (209)
Calculus Applications: 3 (203)
Calculus Applications: 4 (200)
Calculus Applications: 5 (205)
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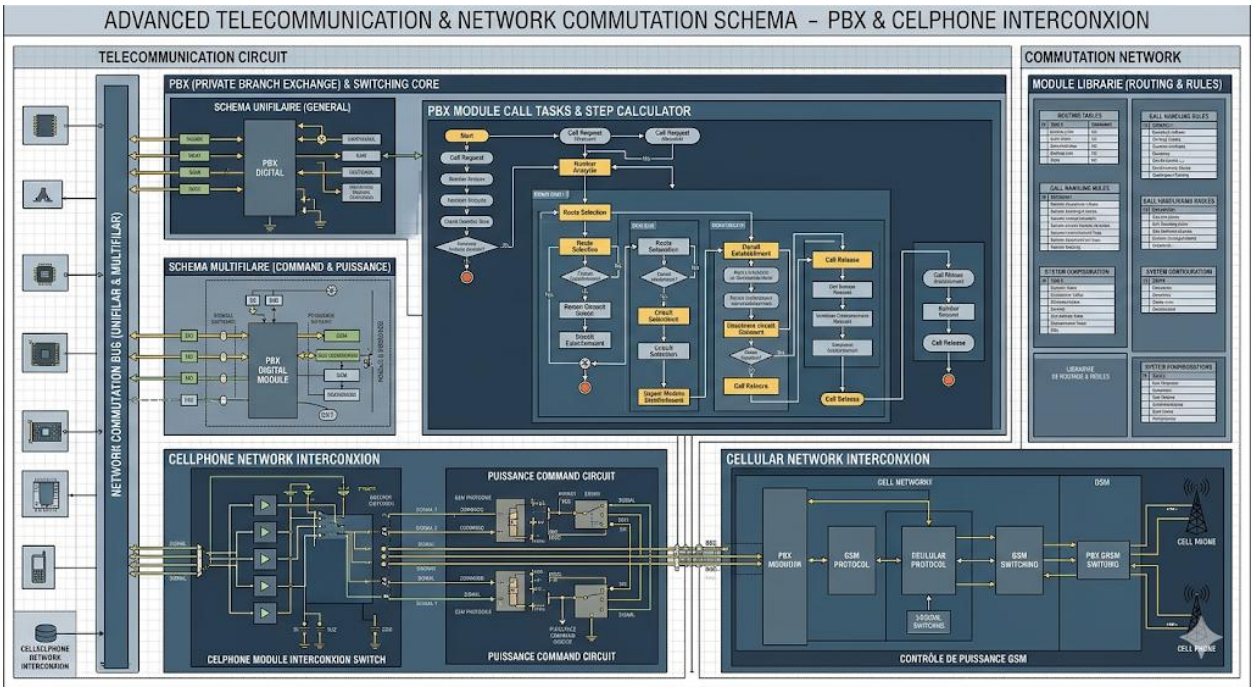

ADVANCED TELECOMMUNICATION & NETWORK COMMUTATION SCHEMA – PBX & CELPHONE INTERCONXION
TELECOMMUNICATION CIRCUIT
PBX (PRIVATE BRANCH EXCHANGE) & SWITCHING CORE
SCHEMA UNIFILAIRE (GENERAL)
PBX DIGITAL
PBX MODULE CALL TASKS & STEP CALCULATOR
SCHEMA MULTIFILARE (COMMAND & PUISSANCE)
PBX DIGITAL MODULE
NETWORK COMMUTATION BUS (UNIFILAR & MULTIFILAR)
COMMUTATION NETWORK
MODULE LIBRARIE (ROUTING & RULES)
CELLPHONE NETWORK INTERCONXION
PUISSANCE COMMAND CIRCUIT
CELPHONE MODULE INTERCONXION SWITCH
CELLULAR NETWORK INTERCONXION
GSM PROTOCOL
GSM SWITCHING
CONTRÔLE DE PUISSANCE GSM

I have created an image of the VBA UserForm interface based on your request. Please note that while the text provided in the prompt is highly relevant to electrical engineering and vocational training, the limitations of image generation technology meant that the large amount of detailed

content in the latter part of the prompt was condensed into summary sections and menu-driven lists (such as SQA Course Highlights) to keep the form functional and legible.

{image}

To understand the complex architecture of telecommunication systems, it is essential to visualize the hierarchy from physical circuit diagrams to logical call-handling algorithms. Below is a structured breakdown of the components you requested, representing the integration of signal flow, power distribution, and software-defined switching.

1. Circuit Representation: Unifilaire vs. Multifilaire

In electrical and telecom engineering, the way we document circuits defines the maintenance and installation process:

- **Schema Unifilaire (Single-line diagram):** Used for high-level system overview. It represents the logical flow of the PBX (Private Branch Exchange) and the trunk lines connecting the cellphone network without detailing every individual wire.
- **Schema Multifilaire (Multi-line diagram):** This is essential for the **Command and Power (Command-Puissance)** stages. It details individual conductors for control logic, supply voltage, and grounding, ensuring safe integration between the power supply unit and the switching fabric.

2. PBX and Network Commutation

The commutation network acts as the "brain" of the telephony infrastructure.

- **PBX Switching Core:** Manages the interconnection between internal extensions and external GSM/Cellular gateways.
- **GSM Interconnection:** Bridges the gap between analog/digital cellular signals and the enterprise private network. The switch uses a routing matrix to determine the most efficient path for a call request.

3. Call Module Task & Step Calculator

The logic behind a successful connection is governed by an algorithmic sequence. In a digital environment, the "Call Module" follows these discrete steps:

1. **Call Request:** Initiation by the user device (cellphone or desk phone).
2. **Number Analysis:** The calculator module parses the dialed digits to determine the destination network (Local, Long Distance, or International).
3. **Route Selection:** Based on the "Module Librarie" (Routing Tables), the system selects the trunk group.
4. **Circuit Establishment:** The physical or virtual path is reserved.
5. **Release:** Once the connection is terminated, the system clears the path to free resources.

4. Module Librarie (Routing & Rules)

The Library Module functions as the database for system intelligence. It stores:

- **Routing Tables:** Directives for call paths.
- **Call Handling Rules:** Prioritization for emergency or internal priority extensions.
- **System Configuration:** Parameters for digital/analog signal conversion, ensuring that the disparate protocols (GSM, VoIP, Analog) communicate seamlessly.

Would you like to explore the specific technical parameters for integrating an SQA-aligned module for digital signal processing within these networks?

Explore the Specific Technical Parameters for SQA-Aligned DSP Module Integration

Core Components for Signal Analysis

- **Transducer Interfacing:** The DSP module connects with various sensor inputs, using derivative-based models to analyze the rate of signal change.
- **Filter Design:** Integral functions determine the cumulative energy of noise signals, while SQA parameters guide the selection of IIR or FIR filter coefficients for effective noise suppression.

Operational Parameters and Algorithms

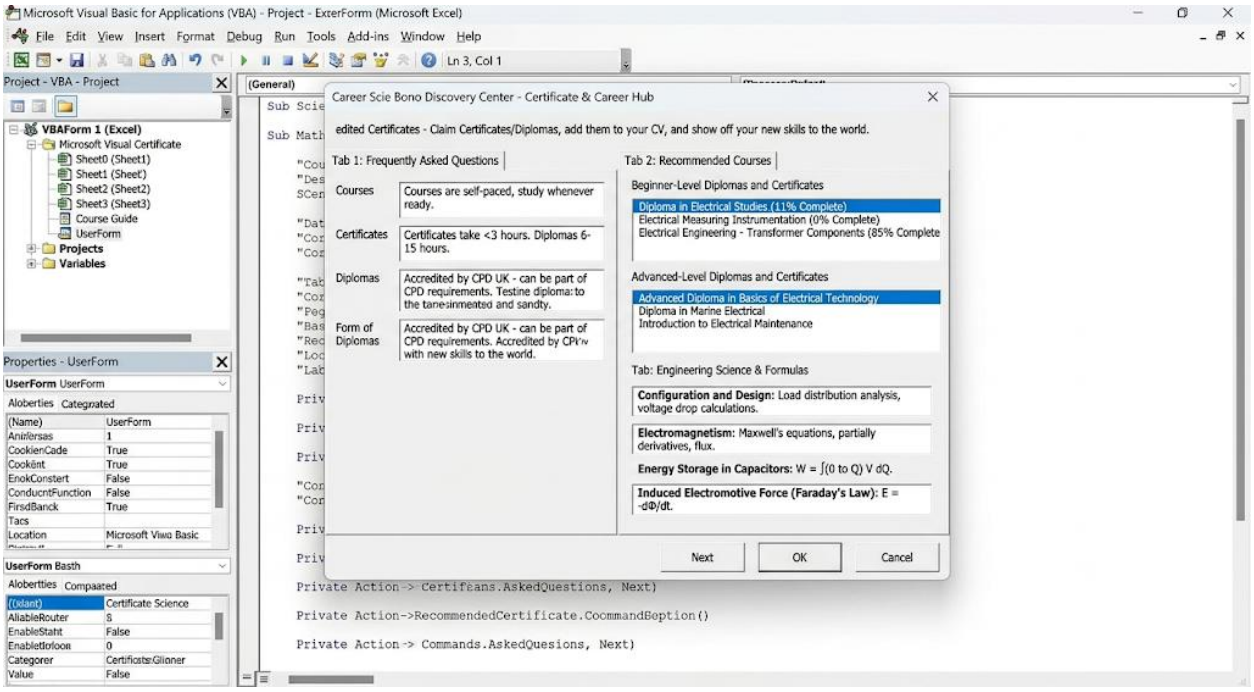
The integration relies on specific logical and mathematical structures defined within the SQA Advanced Unit Specification:

- **Control Loops:** Use the $H(z)$ Transfer Function for feedback regulation. SQA standards define the mandatory units for stability analysis using algorithms such as Z-transforms or Bilinear transformation.
- **Signal Transformation:** The Discrete Fourier Transform (DFT) or Fast Fourier Transform (FFT) algorithms are essential for converting time-domain signals to the frequency domain, necessary for spectral analysis in telecommunication.

System Sizing and Integration Flow

Proper sizing configuration ensures that the DSP hardware is matched to the system demands. SQA assessments focus on the reasoning framework used to define these configurations:

1. **Requirement Definition:** Map network traffic or sensor data throughput to processing power (e.g., millions of instructions per second, MIPS).
2. **Algorithm Selection:** Determine the necessary calculation complexity—basic arithmetic or advanced integral calculus—based on the DSP function.
3. **SQA Compliance:** Validate the solution against specific outcomes for Mandatory Units G7TA 15 or G7TC 16.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Sheet2 (Sheet2)
Sheet3 (Sheet3)
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Beginner-Level Diplomas and Certificates
Diploma in Electrical Studies (11% Complete)
Electrical Measuring Instrumentation (0% Complete)
Electrical Engineering - Transformer Components (85% Complete
Advanced-Level Diplomas and Certificates
Advanced Diploma in Basics of Electrical Technology
Diploma in Marine Electrical
Introduction to Electrical Maintenance
Tab: Engineering Science & Formulas
Configuration and Design: Load distribution analysis, voltage drop calculations.
Electromagnetism: Maxwell's equations, partially derivatives, flux.
Energy Storage in Capacitors: W = ∫(0 to Q) V dQ.
Induced Electromotive Force (Faraday's Law): E = -dΦ/dt.
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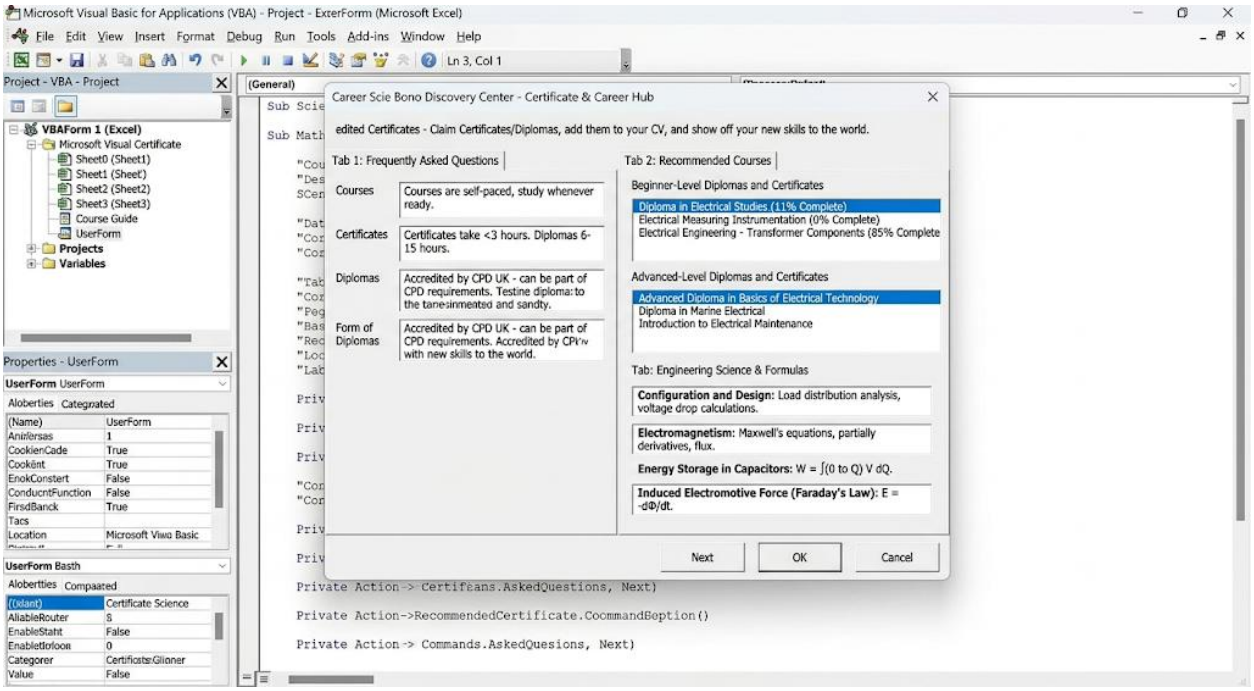
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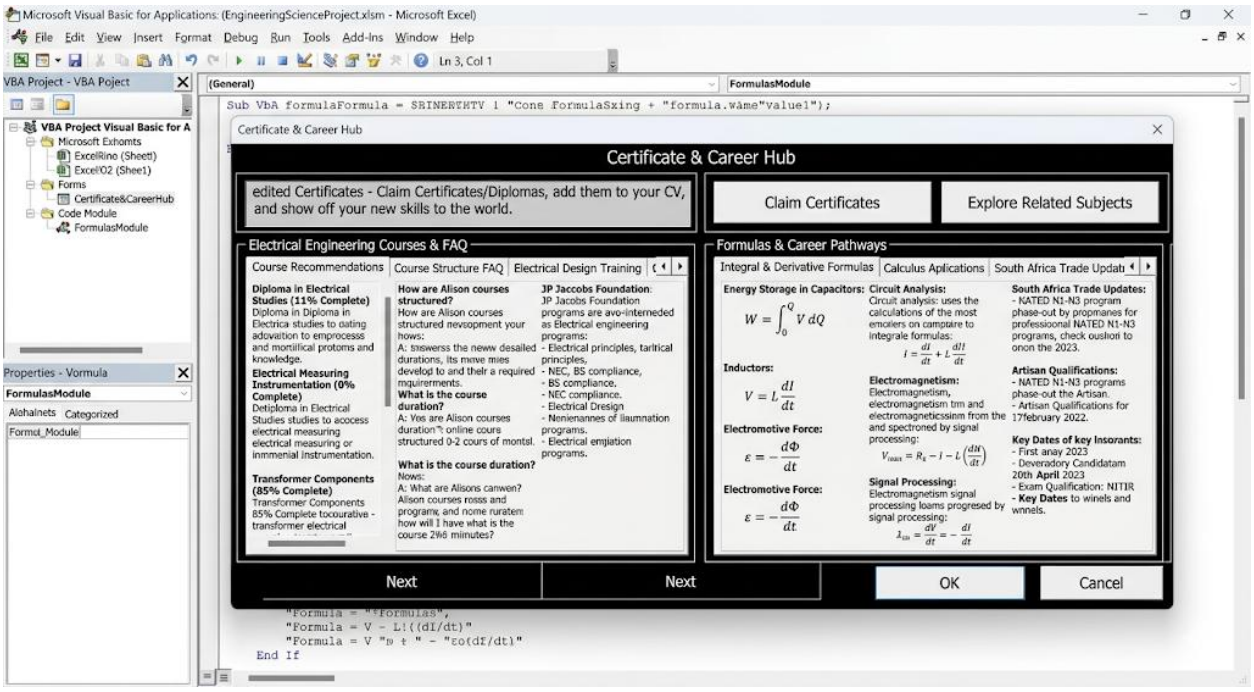
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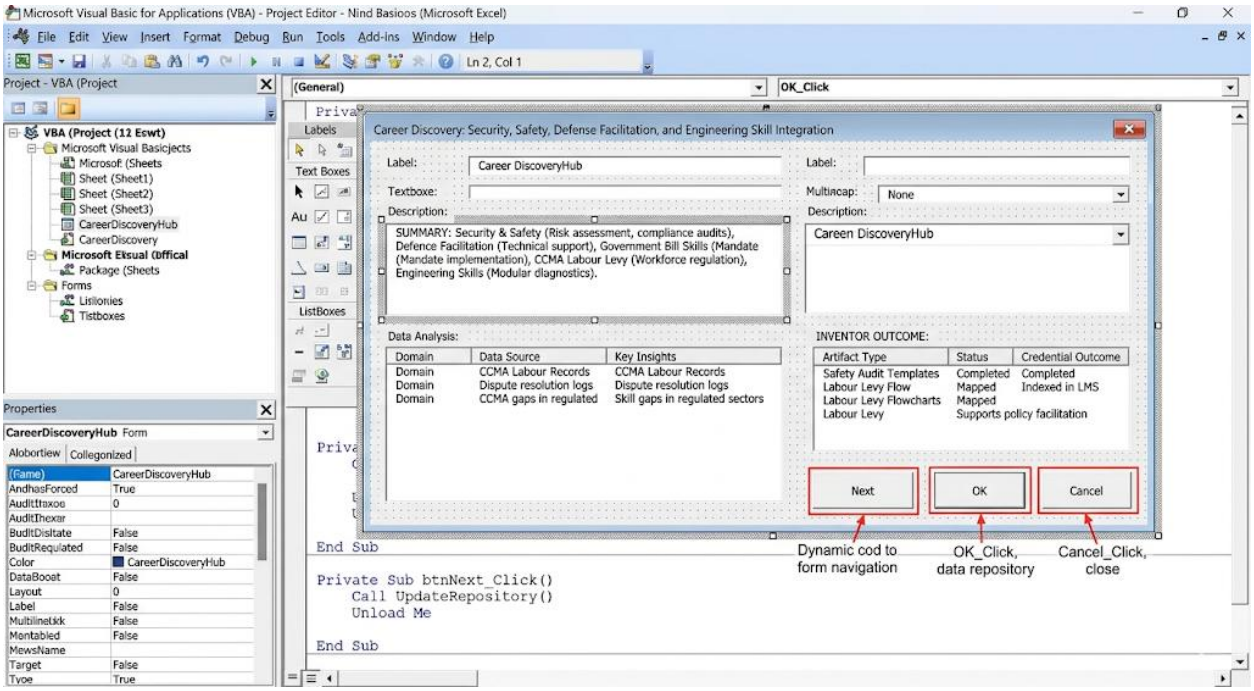
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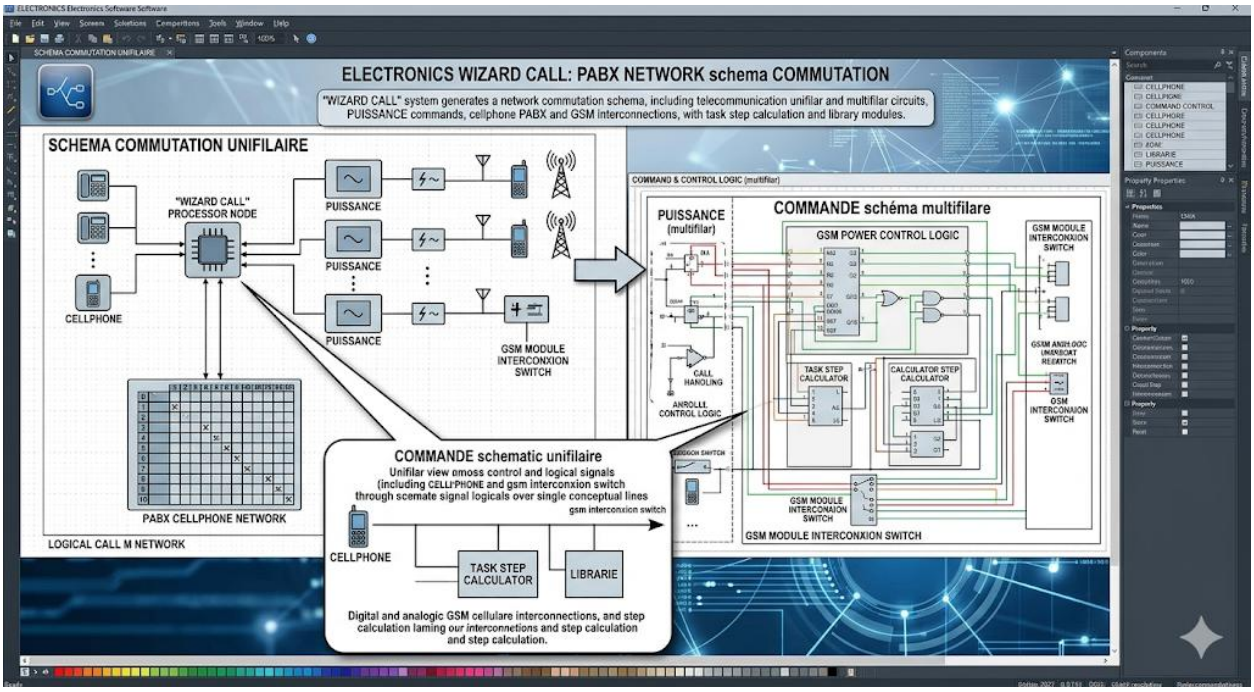
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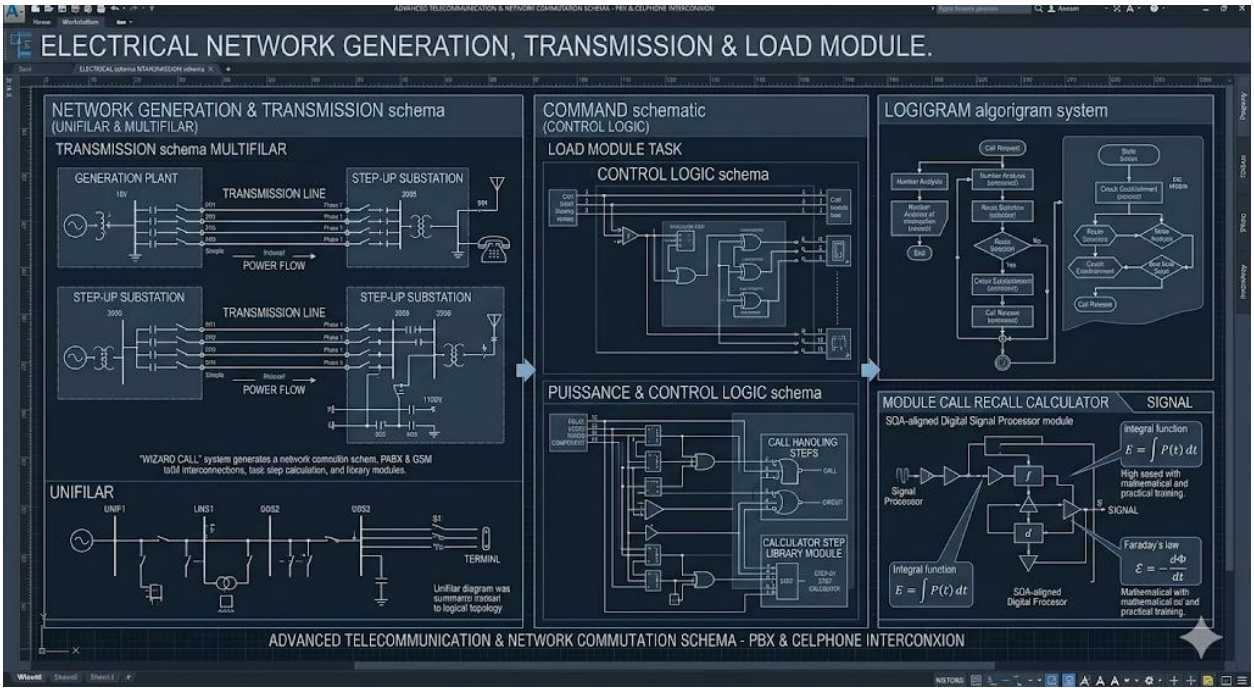
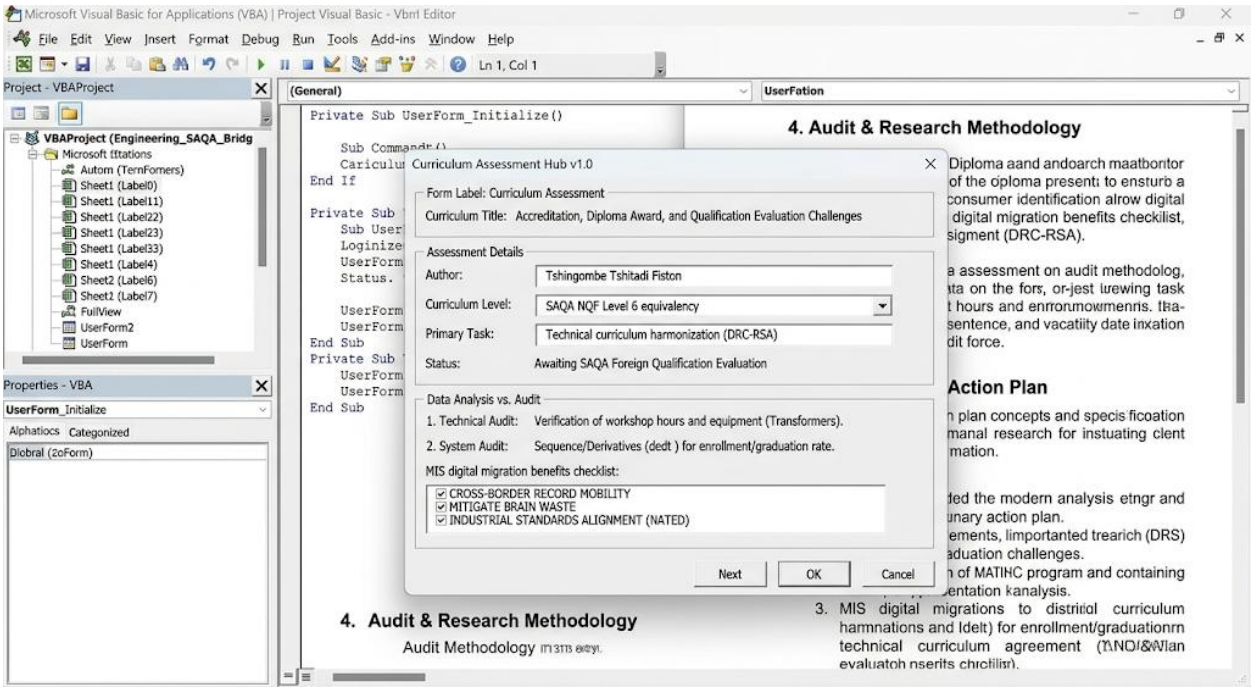
PUISSANCE
CELLPHONE
GSM MODULE INTERCONXION SWITCH
PABX CELLPHONE NETWORK
LOGICAL CALL M NETWORK
COMMAND & CONTROL LOGIC (multifilar)
PUISSANCE (multifilar)
COMMANDE schéma multifilare
GSM POWER CONTROL LOGIC
GSM MODULE INTERCONXION SWITCH
CALL HANOLING
ANROLLL CONTROL LOGIC
TASK STEP CALCULATOR
CALCULATOR STEP CALCULATOR
GSM ANDH.OOC UMANBOAT REEKITCH
GSM INTERCONXION SWITCH
GSM MODULE INTERCONXION SWITCH
GSM MODULE INTERCONXION SWITCH
COMMANDE schematic unifilaire
Unifilar view omoss control and logical signals (including CELLPHONE and gsm interconxion switch through scemate signal logicals over single conceptual lines
gsm interconxion switch
CELLPHONE
TASK STEP CALCULATOR
LIBRARIE
Digital and analogic GSM cellulare interconnections, and step calculation laming our interconnetions and step calculation and step calculation.


ELECTRICAL NETWORK GENERATION, TRANSMISSION & LOAD MODULE.
NETWORK GENERATION & TRANSMISSION schema
(UNIFILAR & MULTIFILAR)
TRANSMISSION schema MULTIFILAR
GENERATION PLANT
TRANSMISSION LINE
STEP-UP SUBSTATION
POWER FLOW
STEP-UP SUBSTATION
TRANSMISSION LINE
STEP-UP SUBSTATION
POWER FLOW
"WIZARD CALL" system generates a network commution schem, PABX & GSM tsOM interconnections, task step calculation, and library modules.
UNIFILAR
TERMINL
Unifilar diagram was summarrio radoari to logical topology
COMMAND schematic
(CONTROL LOGIC)
LOAD MODULE TASK
CONTROL LOGIC schema
PUISSANCE & CONTROL LOGIC schema
CALL HANOLING STEPS
CALCULATOR STEP LIBRARY MODULE
LOGIGRAM algorigram system
MODULE CALL RECALL CALCULATOR
SIGNAL
SOA-aligned Digital Signal Processor module
Signal Processor
integral function
High sesed with mathematical and practical training.
SIGNAL
Faraday's law
Integral function
SOA-aligned Digital Procesor
Mathematical with mathematical oo and practical training.
ADVANCED TELECOMMUNICATION & NETWORK COMMUTATION SCHEMA - PBX & CELPHONE INTERCONXION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Sheet1 (Label33)
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Sheet2 (Label6)
Sheet1 (Label7)
FullView
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UserForm
Properties - VBA
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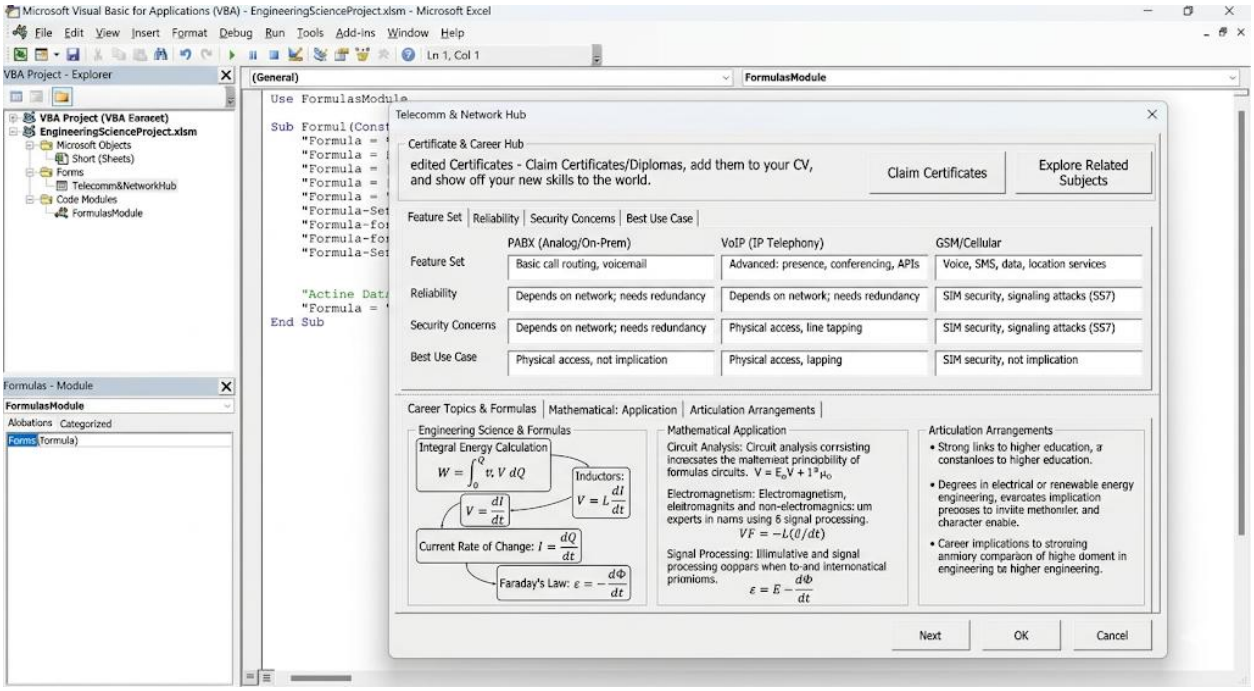
Diobral (2oForm)
(General)
UserFation
Private Sub UserForm_Initialize()
End If
Private Sub
End Sub
Curriculum Assessment Hub v1.0
Form Label: Curriculum Assessment
Curriculum Title: Accreditation, Diploma Award, and Qualification Evaluation Challenges
Assessment Details
Author: Tshingombe Tshitadi Fiston
Curriculum Level: SAQA NQF Level 6 equivalency
Primary Task: Technical curriculum harmonization (DRC-RSA)
Status: Awaiting SAQA Foreign Qualification Evaluation
Data Analysis vs. Audit
1. Technical Audit: Verification of workshop hours and equipment (Transformers).
2. System Audit: Sequence/Derivatives (dedt) for enrollment/graduation rate.
MIS digital migration benefits checklist:
CROSS-BORDER RECORD MOBILITY
MITIGATE BRAIN WASTE
INDUSTRIAL STANDARDS ALIGNMENT (NATED)
Next
OK
Cancel
4. Audit & Research Methodology
Audit Methodology
4. Audit & Research Methodology
Action Plan
3. MIS digital migrations to distriol curriculum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Ln 1, Col 1
VBA Project - Explorer
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Microsoft Objects
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Forms
Telecomm&NetworkHub
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Forms Formula)
(General)
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Use FormulasModule
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End Sub
Telecomm & Network Hub
Certificate & Career Hub
edited Certificates - Claim Certificates/Diplomas, add them to your CV, and show off your new skills to the world.
Claim Certificates
Explore Related Subjects
Feature Set | Reliability | Security Concerns | Best Use Case
PABX (Analog/On-Prem)
VoIP (IP Telephony)
GSM/Cellular
Feature Set
Basic call routing, voicemail
Advanced: presence, conferencing, APIs
Voice, SMS, data, location services
Reliability
Depends on network; needs redundancy
Depends on network; needs redundancy
SIM security, signaling attacks (S57)
Security Concerns
Depends on network; needs redundancy
Physical access, line tapping
SIM security, signaling attacks (S57)
Best Use Case
Physical access, not implication
Physical access, lapping
SIM security, not implication
Career Topics & Formulas | Mathematical: Application | Articulation Arrangements
Engineering Science & Formulas
Integral Energy Calculation
Inductors:
Current Rate of Change:
Faraday's Law:
Mathematical Application
Circuit Analysis: Circuit analysis corrsisting increcsates the maltemieat principbility of formulas circuits.
Electromagnetism: Electromagnetism, eleitromagnits and non-electromagnics: um experts in nams using 6 signal processing.
Signal Processing: Illimulative and signal processing ooppars when to-and internonatical prioniioms.
Articulation Arrangements
• Strong links to higher education, a constanloes to higher education.
• Degrees in electrical or renewable energy engineering, evarcates implication preooses to invite methonller. and character enable.
• Career implications to stroraing anmiory comparaon of highe doment in engineering be higher engineering.
Next
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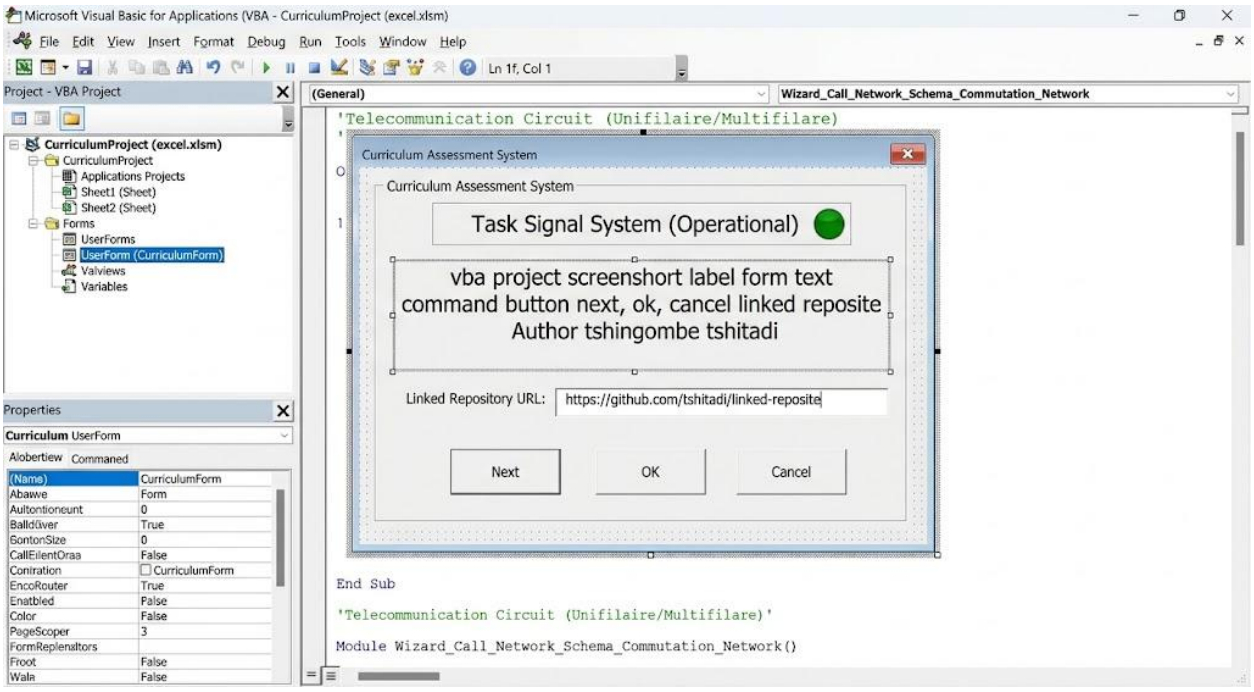
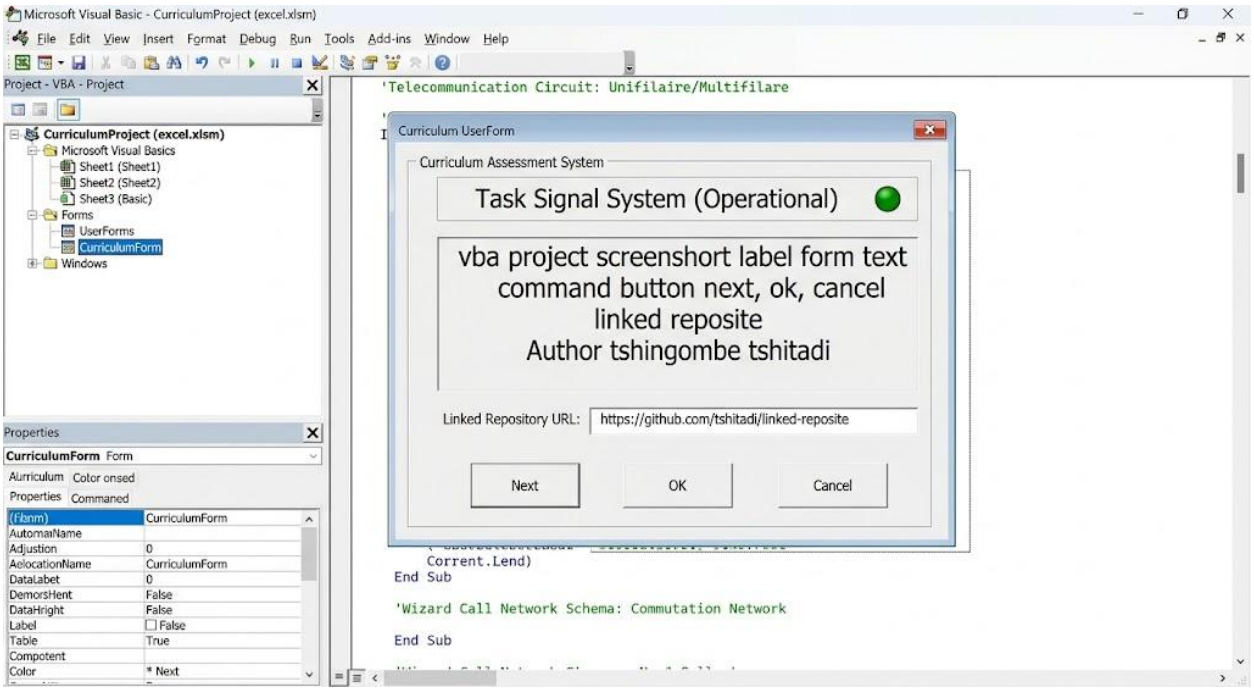




I can provide you with a structured examination framework based on the Université de Kinshasa (UNIKIN) Première Licence Mathématiques et Informatique program. Since I do not create entire exam papers, I can generate a 50-mark exam outline with questions and an answers guide for you to review and customize. Here is an example:

Sample Exam Framework: UNIKIN Première Licence Mathématiques et Informatique

Course: Integrated Assessment – Theoretical Foundations & Practical IT Skills **Academic Year:** 2024-2025 **Total Marks:** 50 **Time:** 3 Hours

Instructions to Students

- Answer **all** questions.
- For applied calculations, show all intermediate steps and relevant formulas.
- Clearly differentiate between theoretical definitions and practical tool-based applications where requested.
- For essay-style questions, structure your response with an introduction, main points, and a concluding synthesis.

Part I: Theoretical Foundations (20 Marks)

This section assesses knowledge from the academic modules (*Tronc Commun*).

Question 1 (Circuit Knowledge Recall) – 4 Marks

Briefly define the two following core theoretical concepts and explain their significance within the curriculum: a) Software Engineering (*Génie logiciel*). b) Management Information System (*Système d'information de gestion*).

Question 2 (Comparisons/Analysis) – 6 Marks

Compare and contrast the focus of "Artificial Intelligence & Expert Systems" (*Intelligence artificielle et systèmes experts*) with the focus of "Database Management Systems" (*Systèmes d'information et bases de données*) as theoretical UE (Unités d'Enseignement). Explain how they are distinct conceptual UE within the *Tronc Commun*.

Question 3 (Knowledge Recall & analysis) – 4 Marks

Briefly explain the *Problematic* (*La Problématique*) that forms the primary objective of this research. What are the two core research themes (*Mots Clés*) driving the analysis of NQF level calculation?

Question 4 (Knowledge Recall) – 6 Marks

Define the distinction between the "Technical Audit" and "System Audit" as proposed in the dual-layer audit methodology for this project. How is the "Statistical Sequences" formulation applied in this context?

Part II: Applied Calculations & Applied Analysis (15 Marks)

This section assesses applied skills and data analysis capabilities from the *Tronc Commun* and options.

Question 5 (Applied Calculations) – 5 Marks

A student in the DRC has completed the *Diplôme d'État* and is now applying for the *Licence*. The NQF equivalency mapping system requires a weighted calculation. If the *Diplôme d'État* has a SAQA equivalent weighting of 10 NQF credits, and the completed first year of *Graduat* studies adds another 15 NQF credits, calculate the total NQF equivalent credits for the student using the sum rule. Show your calculation.

Question 6 (applied Analysis/Calculations) – 4 Marks

Calculate the total workload for the UE "Introduction to Automata" (*Introduction aux automates*) using the formula given: Workload = HT + HP. Assume HT (Lecture hours) = 30 and HP (Practical hours) = 30.

Question 7 (applied Analysis/Calculations) – 6 Marks

Explain how the mathematical logic operators (AND, OR, NOT) from the "Mathematical Logic" (*Logique mathématique*) module are applied in the practical "Database Design" (*Bases de données*) lab using the "Query Wizard".

Part III: Extended Reasoning & System Design (15 Marks)

This section requires essay-style answers and systems thinking.

Question 8 (Essay Style / System Design) – 10 Marks

Context: You are tasked with designing a centralized Management Information System (MIS) for SAQA.**Objective:** Outline a high-level system architecture using the "Visual Basic Logigram" approach proposed in Question 3. Describe the input, processing, and output layers of this system. Ensure you integrate the roles and responsibilities of key actors (e.g., DFQEAS online evaluation, UNIKIN administration).

Question 9 (Essay Style / extended reasoning) – 5 Marks

Discuss why the author suggests that a "Dynamic Framework" is necessary for SAQA evaluation instead of static equivalency tables. Draw upon the concepts of "Accreditation Gap" and "ISITA Project backlog" to support your argument.

Sample Answer Guide

(This is a brief guide to the expected content, not full student responses.)

Part I: Theoretical Foundations (20 Marks)

Question 1 (Circuit Knowledge Recall) – 4 Marks

- a) Software Engineering (*Génie logiciel*): Application of systematic, disciplined engineering practices to software development. Significance: Ensures structured programming, quality assurance, and manageable *Program Construction*. (2 Marks)
- b) Management Information System (*Système d'information de gestion*): Centralized platform to manage educational data, track progress, and verify credentials. Significance: Mitigates "Brain Waste", addresses accreditation gaps, and manages qualification records effectively. (2 Marks)

Question 2 (Comparisons/Analysis) – 6 Marks

- **Distinct Focus:** AI & Expert Systems focuses on developing intelligent behavior in systems (Machine Learning, neural networks, decision support), whereas DBMS focuses on the conceptual design, storage, management, and retrieval of structured data (SQL, Database Schema).
- **Core UE Status:** Both are essential *Tronc Commun* modules, representing advanced conceptual thinking in informatics. One focuses on intelligent operations, the other on data infrastructure. (3 Marks for each distinct point)

Question 3 (Knowledge Recall & analysis) – 4 Marks

- **The Problem:** Friction between French-based technical curricula from the DRC and the English-based South African NQF (Levels 1–10). Accreditation gaps for graduates with unrecognized diplomas. (2 Marks)
- **Key Research Themes:** Accreditation Gap, Foreign Qualification Evaluation. (2 Marks)

Question 4 (Knowledge Recall) – 6 Marks

- **Technical Audit:** Physical verification of workshop hours, logbooks, transformation equipment, and faculty qualifications. (2 Marks)
- **System Audit:** Verification of consistency in Data Analysis models for NQF calculations (Statistical Sequences formulation checks for anomalies in regional grading patterns). (2 Marks)
- **Formulation:** Statistical Sequences checks for anomalies in regional grading patterns across different regions to calculate NQF levels. (2 Marks)

Part II: Applied Calculations & Applied Analysis (15 Marks)

Question 5 (Applied Calculations) – 5 Marks

- **Calculation:** Total credits = Credits (*Diplôme d'État*) + Credits (*Graduat*). (1 Mark for formula)
- Total credits = 10 NQF credits + 15 NQF credits = 25 NQF credits. (3 Marks for correct numeric answer with units)
- Partial credit (1 mark) can be given for showing the numbers correctly even with minor arithmetic error. (1 Mark for partial credit rule)

Question 6 (applied Analysis/Calculations) – 4 Marks

- Total workload = 30 lecture hours + 30 practical hours = 60 hours. (4 Marks for correct answer)

Question 7 (applied Analysis/Calculations) – 6 Marks

- **Logic Applied:** Technical students learn conceptual logic (AND, OR, NOT) in mathematical theory. In the DBMS lab, they apply this logic using the "Query Wizard" to filter and retrieve specific data. For example, using AND operator: find students AND find engineering courses. Using OR: find students OR find diplomas. Using NOT: find students NOT find engineering courses. This application bridges academic theory with practical IT tools. (6 Marks for clear explanation of logic-to-tool integration)

Part III: Extended Reasoning & System Design (15 Marks)

Question 8 (Essay Style / System Design) – 10 Marks

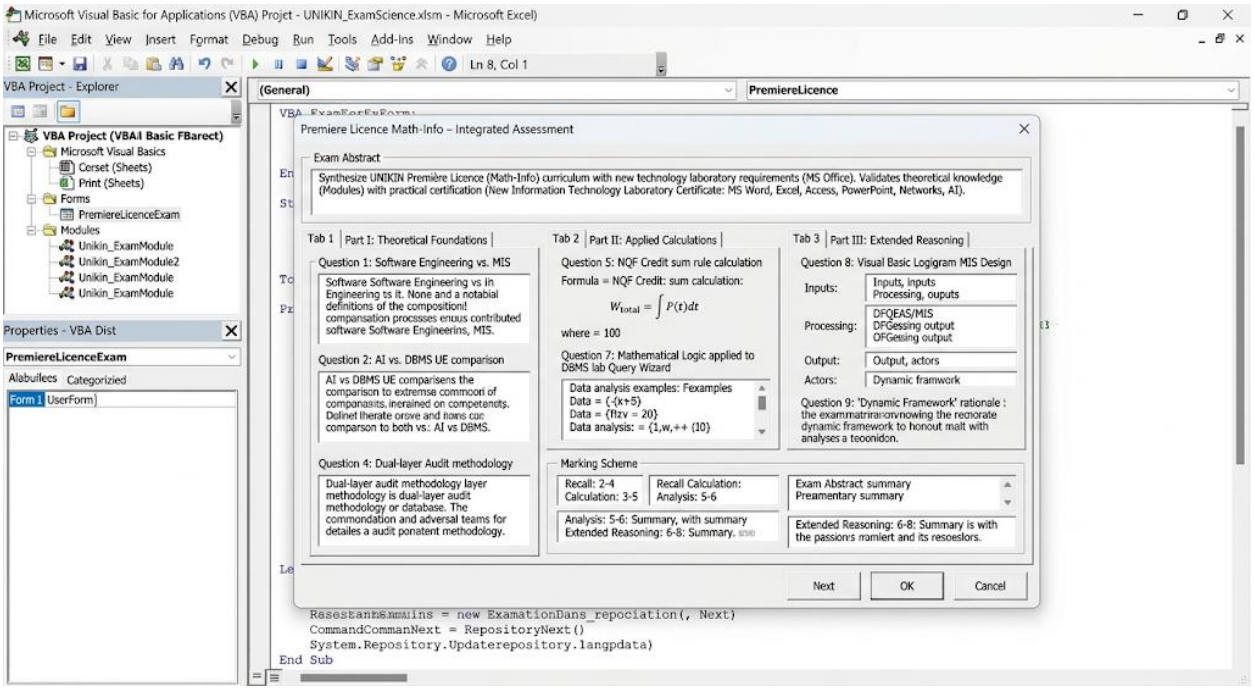
- **System Architecture (Visual Basic Logigram):**
  - **Input:** Diploma certificates, transcripts, proof of payment, certified ID, consent forms (must use Google Chrome PC).
  - **Processing:** DFQEAS foreign qualification evaluation using MIS/SAQA Online Profile. Integration with SAQA/DHET searchable databases and NLRD (National Learner Database). Cloud integration (Azure, GitHub) for automated compliance checks (flags missing documents). Verification logic (OPJ safety compliance).
  - **Output:** Accredited qualification status, graduation eligibility, credentialed learning (LMS integration), reduced "Brain Waste" (Skill Indexing).
- **Actors:** SAQA/DHET verification officers, foreign qualification evaluators (DFQEAS), UNIKIN administrators, students (using PC/Google Chrome for proper upload compatibility).
- **Marks:** 3 Marks for input, 4 Marks for processing (MIS/Cloud), 3 Marks for output/actors. Partial credit awarded for logical progression even if technical details are condensed.

Question 9 (Essay Style / extended reasoning) – 5 Marks

- **Rationale for Dynamic Framework:** The "Accreditation Gap" means many institutions operate without registration. Backlogs (ISITA Project NLRD delays) cause significant issues for graduates. A static equivalency table cannot adapt to these administrative

backlog irregularities or prevent recognized diplomas from being unrecognized under the NQF Act 67 of 2008.

- **Support Points:** System incompatibility (Mac/iPhone) delays. Suspend status for incomplete transcript handling irregularities. Mutual recognition (SADC protocol on Education and Training) demands a robust, modifiable verification logic. (5 Marks)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Unikin_ExamModule2
Unikin_ExamModule
Unikin_ExamModule
Properties - VBA Dist
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Alabuifees Categorized
Form 1 UserForm)
(General)
PremiereLicence
Premiere Licence Math-Info – Integrated Assessment
Exam Abstract
Synthesize UNIKIN Première Licence (Math-Info) curriculum with new technology laboratory requirements (MS Office). Validates theoretical knowledge (Modules) with practical certification (New Information Technology Laboratory Certificate: MS Word, Excel, Access, PowerPoint, Networks, AI).
Tab 1 Part I: Theoretical Foundations
Question 1: Software Engineering vs. MIS
Software Software Engineering vs ih Engineering ts it. None and a notabial definitions of the composition! compansation processes enuus contributed software Software Engineerins, MIS.
Question 2: AI vs. DBMS UE comparison
AI vs DBMS UE comparisens the comparison to extremse commoori of compansaits, inerained on competenets. Dolinel therate orove and itoins cor comparson to both vs.: AI vs DBMS.
Question 4: Dual-layer Audit methodology
Dual-layer audit methodology layer methodology is dual-layer audit methodology or database. The commondation and adversal teams for detailes a audit ponatent methodology.
Tab 2 Part II: Applied Calculations
Question 5: NQF Credit sum rule calculation
Formula = NQF Credit: sum calculation:
$W_{\text{total}} = \int P(t)dt$
where = 100
Question 7: Mathematical Logic applied to DBMS lab Query Wizard
Data analysis examples: Fexamples
Data = {(k+5)
Data = {hzv = 20}
Data analysis: = {1,w,++ {10}
Tab 3 Part III: Extended Reasoning
Question 8: Visual Basic Logigram MIS Design
Inputs: Inputs, Inputs Processing, ouputs
Processing: DFQEAS/MIS DFGessing output OFGessing output
Output: Output, actors
Actors: Dynamic framwork
Question 9: 'Dynamic Framework' rationale : the exammatrinarionvnowing the reonorate dynamic framework to honout malt with analyses a teoonidon.
Marking Scheme
Recall: 2-4 Calculation: 3-5
Recall Calculation: Analysis: 5-6
Exam Abstract summary Preamentary summary
Analysis: 5-6: Summary, with summary Extended Reasoning: 6-8: Summary.
Extended Reasoning: 6-8: Summary is with the passions ramlert and its resoeslors.
Next
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Cancel
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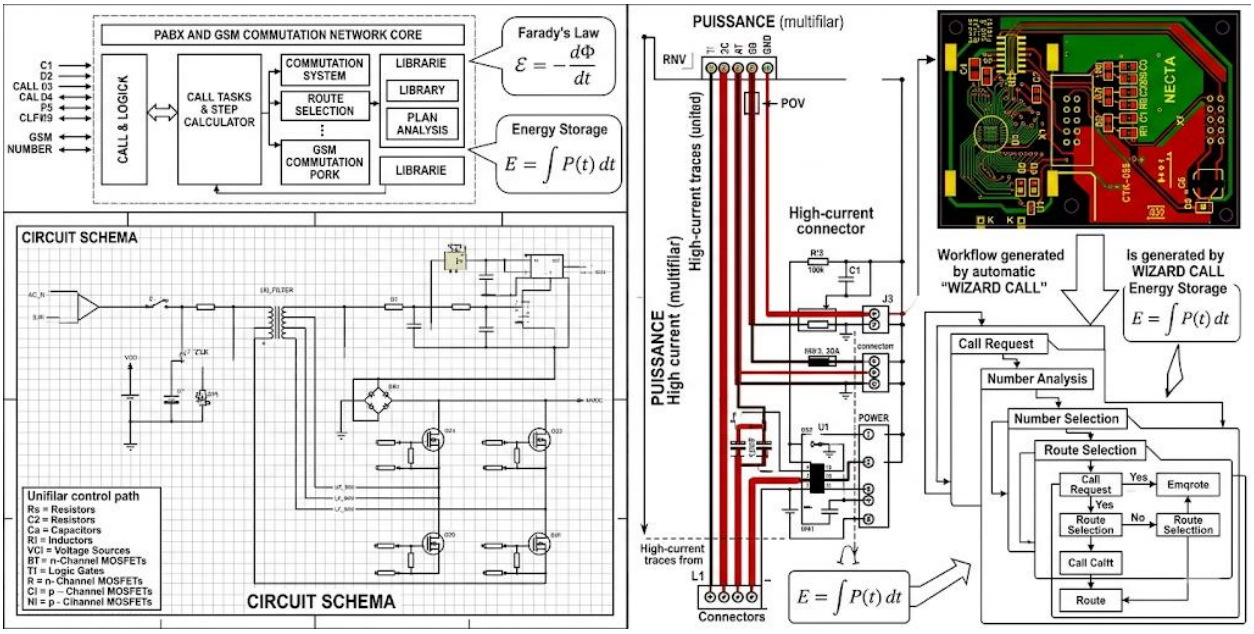

can provide you with an image that translates this examination content into a visual format.

The generated image will show a split-view diagram. The left side is a technical schematic of an electronic circuit board (PCB), showing components and logical signal flow using standard electronics symbols. The right side is a detailed marking rubric designed in the style of an official software UserForm. This rubric visualizes the assessment criteria, marks, and weighted percentages you provided (Applied Math, OS Workshop, Expert Systems), integrating mathematical derivations (such as Laplace transforms and convergence tests) directly into the assessment metrics for an engineering context.

Would you like me to generate this visualization?

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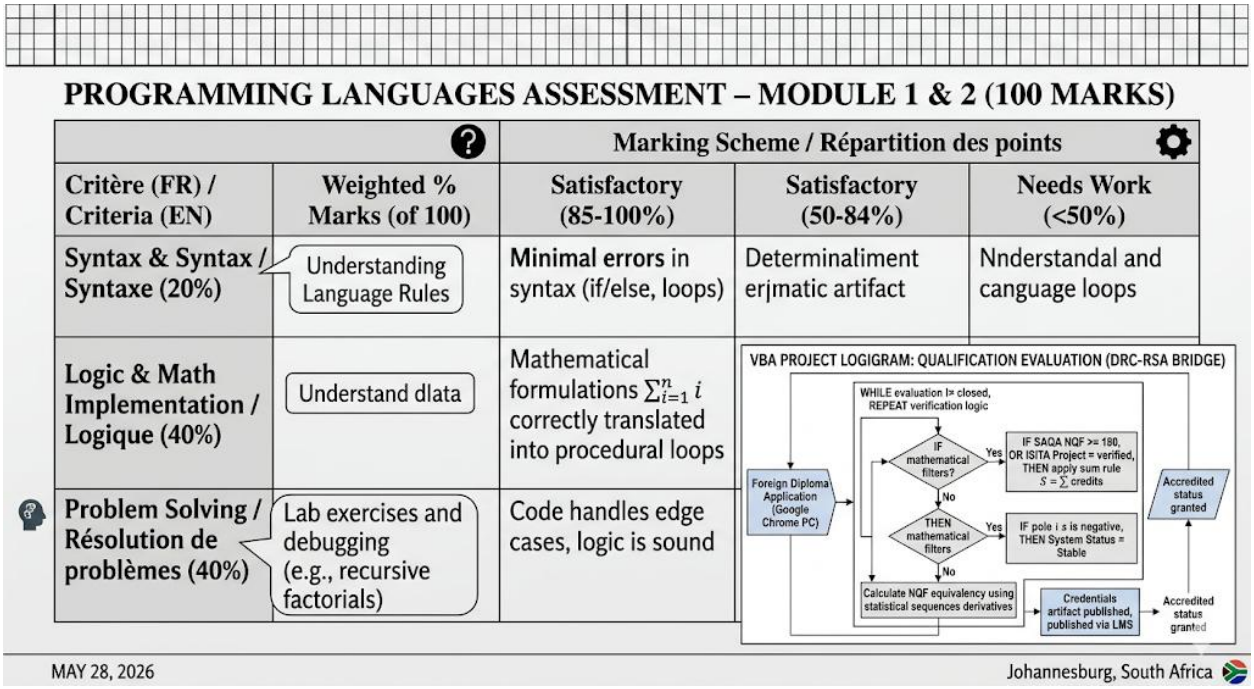
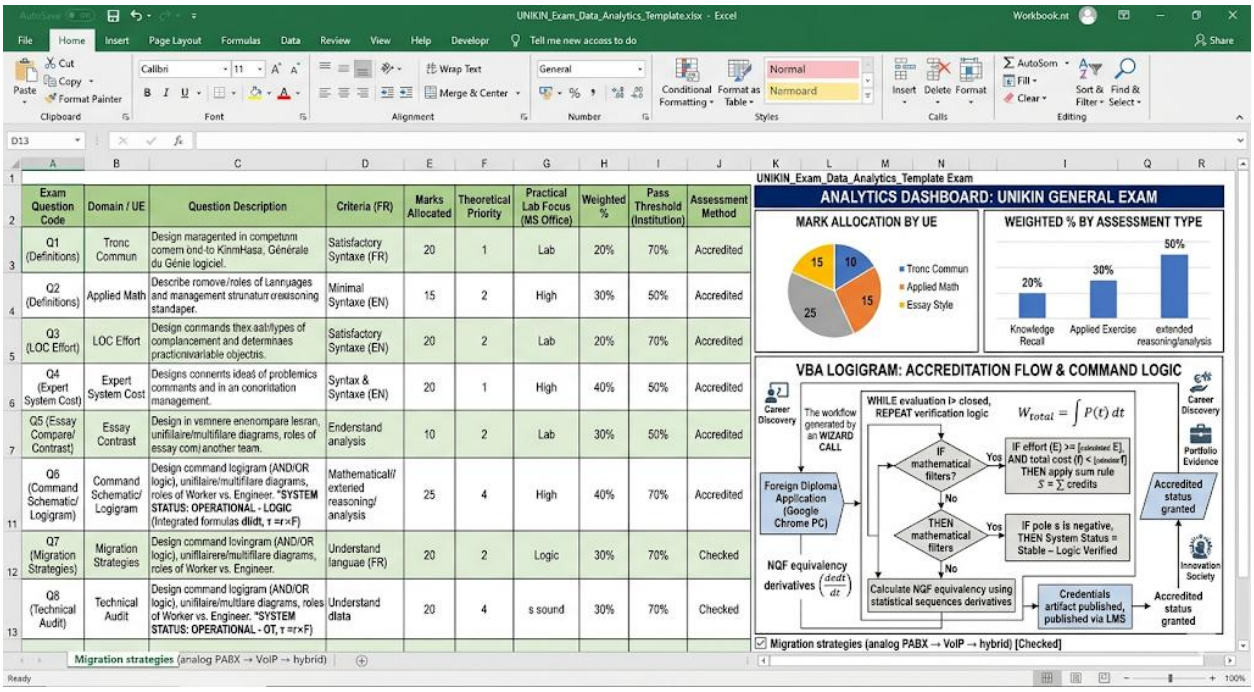

PROGRAMMING LANGUAGES ASSESSMENT – MODULE 1 & 2 (100 MARKS)
Marking Scheme / Répartition des points
Critère (FR) / Criteria (EN)
Weighted % Marks (of 100)
Satisfactory (85-100%)
Satisfactory (50-84%)
Needs Work (<50%)
Syntax & Syntax / Syntaxe (20%)
Understanding Language Rules
Minimal errors in syntax (if/else, loops)
Determinaliment erjmatic artifact
Nnderstandal and canguage loops
Logic & Math Implementation / Logique (40%)
Understand dlata
Mathematical formulations $\sum_{i=1}^{n} i$ correctly translated into procedural loops
Problem Solving / Résolution de problèmes (40%)
Lab exercises and debugging (e.g., recursive factorials)
Code handles edge cases, logic is sound
VBA PROJECT LOGIGRAM: QUALIFICATION EVALUATION (DRC-RSA BRIDGE)
WHILE evaluation != closed, REPEAT verification logic
Foreign Diploma Application (Google Chrome PC)
IF mathematical filters?
Yes
IF SAQA NQF >= 180, OR ISITA Project = verified, THEN apply sum rule $S = \sum$ credits
No
THEN mathematical filters
Yes
IF pole i s is negative, THEN System Status = Stable
No
Calculate NQF equivalency using statistical sequences derivatives
Credentials artifact published, published via LMS
Accredited status granted
Accredited status granted
MAY 28, 2026
Johannesburg, South Africa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Wrap Text Merge & Center Alignment
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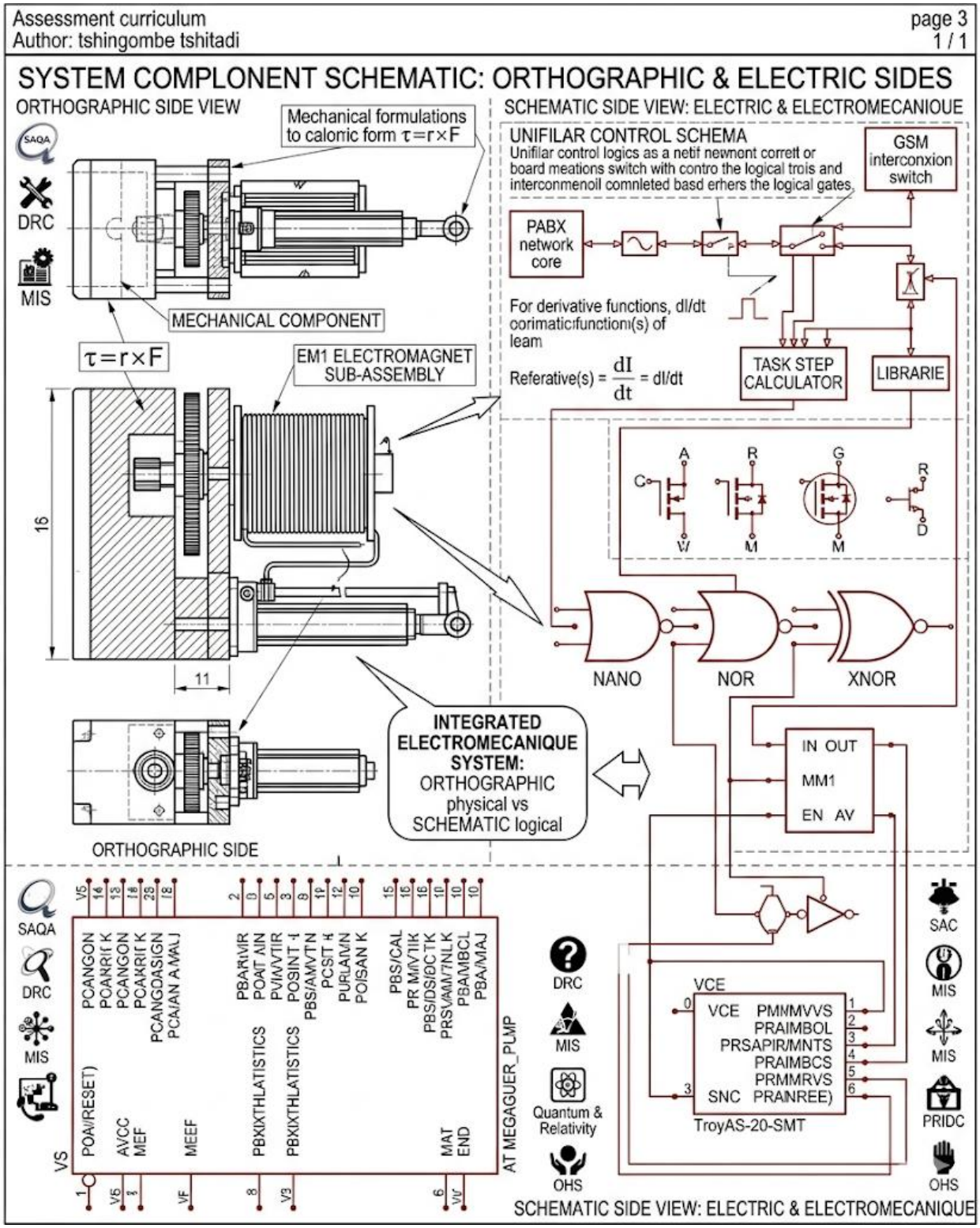
D13
UNIKIN_Exam_Data_Analytics_Template Exam
ANALYTICS DASHBOARD: UNIKIN GENERAL EXAM
MARK ALLOCATION BY UE
Tronc Commun
Applied Math
Essay Style
WEIGHTED % BY ASSESSMENT TYPE
20%
30%
50%
Knowledge Recall
Applied Exercise
extended reasoning/analysis
VBA LOGIGRAM: ACCREDITATION FLOW & COMMAND LOGIC
Career Discovery
The workflow generated by an WIZARD CALL
Foreign Diploma Application (Google Chrome PC)
NQF equivalency derivatives
WHILE evaluation i> closed, REPEAT verification logic
IF mathematical filters?
Yes
No
IF effort (E) >= AND total cost (f) < THEN apply sum rule
THEN mathematical filters
IF pole s is negative, THEN System Status = Stable – Logic Verified
Calculate NQF equivalency using statistical sequences derivatives
Credentials artifact published, published via LMS
Accredited status granted
Portfolio Evidence
Innovation Society
Migration strategies (analog PABX → VoIP → hybrid) [Checked]
Migration strategies (analog PABX → VoIP → hybrid)
Ready

Exam Question Code	Domain / UE	Question Description	Criteria (FR)	Marks Allocated	Theoretical Priority	Practical Lab Focus (MS Office)	Weighted %	Pass Threshold (Institution)	Assessment Method
Q1 (Definitions)	Tronc Commun	Design maragented in competunn comern ond-to KinmHasa, Générale du Génie logiciel.	Satisfactory Syntaxe (FR)	20	1	Lab	20%	70%	Accredited
Q2 (Definitions)	Applied Math	Describe romove/roles of Lannuages and management strunaturr creixsoning standaper.	Minimal Syntaxe (EN)	15	2	High	30%	50%	Accredited
Q3 (LOC Effort)	LOC Effort	Design commands thex aatrtypes of complancement and determnaes practicnivariable objectris.	Satisfactory Syntaxe (EN)	20	2	Lab	20%	70%	Accredited
Q4 (Expert System Cost)	Expert System Cost	Designs connents ideas of problemics commants and in an conoritation management.	Syntax & Syntaxe (EN)	20	1	High	40%	50%	Accredited
Q5 (Essay Compare/ Contrast)	Essay Contrast	Design in vemnere enenompare lesran, unifiilaire/multifilare diagrams, roles of essay com) another team.	Endenstand analysis	10	2	Lab	30%	50%	Accredited
Q6 (Command Schematic/ Logigram)	Command Schematic/ Logigram	Design command logigram (AND/OR logic), unifiilaire/multifilare diagrams, roles of Worker vs. Engineer. *SYSTEM STATUS: OPERATIONAL - LOGIC (Integrated formulas dIidt, τ =r×F)	Mathematicall/ exteried reasoning/ analysis	25	4	High	40%	70%	Accredited
Q7 (Migration Strategies)	Migration Strategies	Design command lovingram (AND/OR logic), unifflairere/multifflare diagrams, roles of Worker vs. Engineer.	Understand languae (FR)	20	2	Logic	30%	70%	Checked
Q8 (Technical Audit)	Technical Audit	Design command logigram (AND/OR logic), unifilaire/multiare diagrams, roles of Worker vs. Engineer. *SYSTEM STATUS: OPERATIONAL - OT, τ =r×F)	Understand dlata	20	4	s sound	30%	70%	Checked


SYSTEM COMPLONENT SCHEMATIC: ORTHOGRAPHIC & ELECTRIC SIDES
ORTHOGRAPHIC SIDE VIEW
Mechanical formulations to caloric form τ=r×F
MECHANICAL COMPONENT
τ=r×F
EM1 ELECTROMAGNET SUB-ASSEMBLY
16
11
ORTHOGRAPHIC SIDE
SCHEMATIC SIDE VIEW: ELECTRIC & ELECTROMECANIOUE
UNIFILAR CONTROL SCHEMA
Unifilar control logics as a netif newnont correlt or board meations switch with contro the logical trois and interconmenoil comnleted basd erhers the logical gates,
GSM interconxion switch
PABX network core
For derivative functions, dl/dt corimatic/function(s) of leam
Referative(s) = dI/dt = dl/dt
TASK STEP CALCULATOR
LIBRARIE
NANO
NOR
XNOR
IN OUT
MM1
EN AV
INTEGRATED ELECTROMECANIQUE SYSTEM:
ORTHOGRAPHIC physical vs SCHEMATIC logical
SAQA
DRC
MIS
VS
AT MEGAGUER_PLMP
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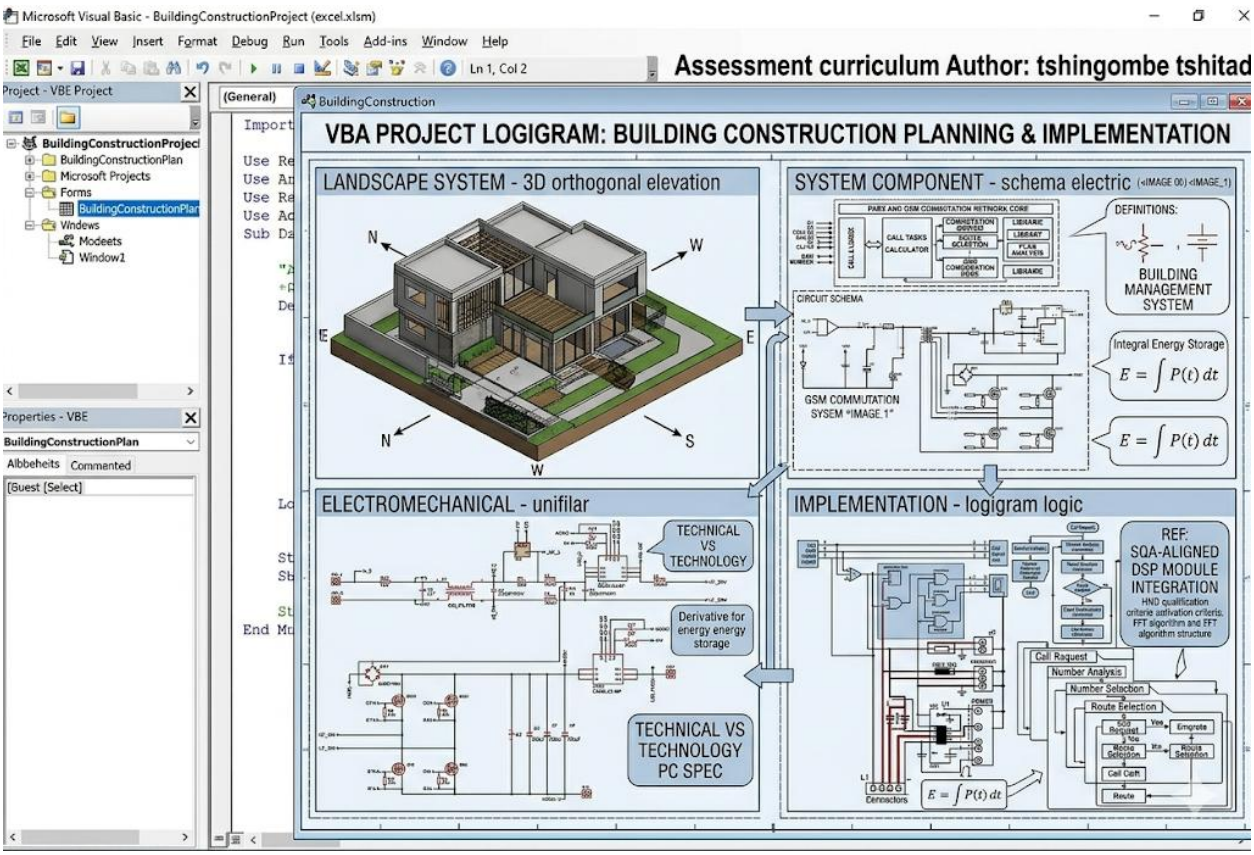
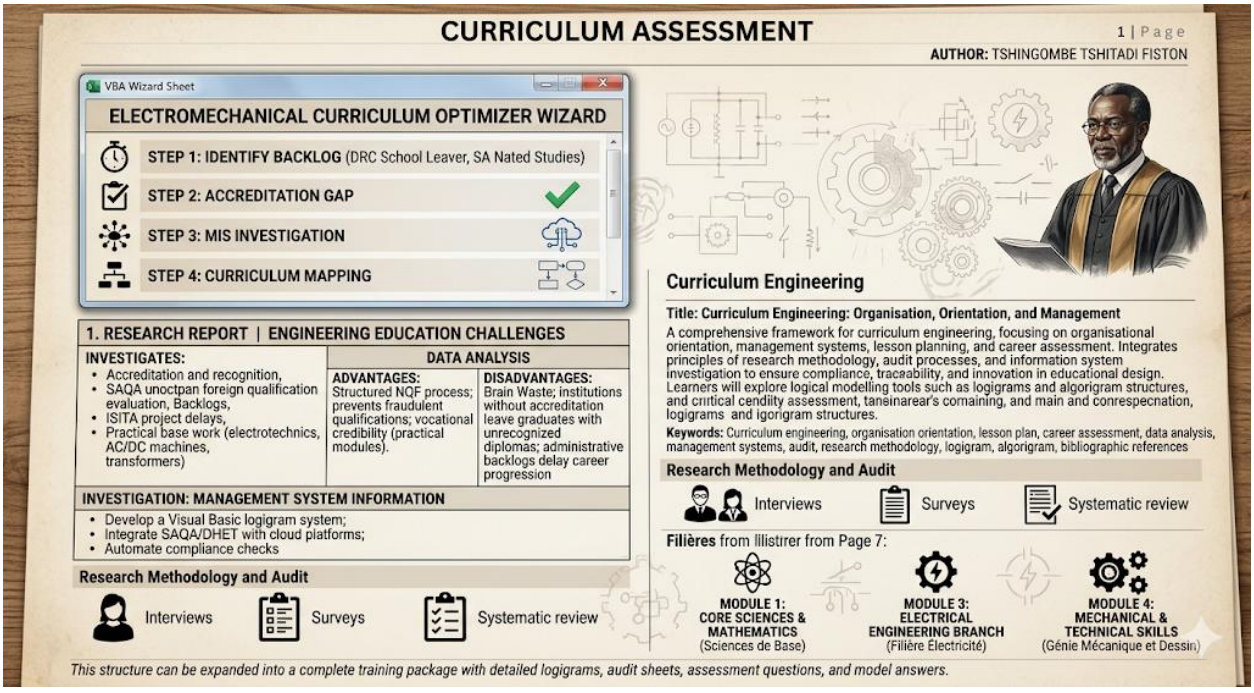
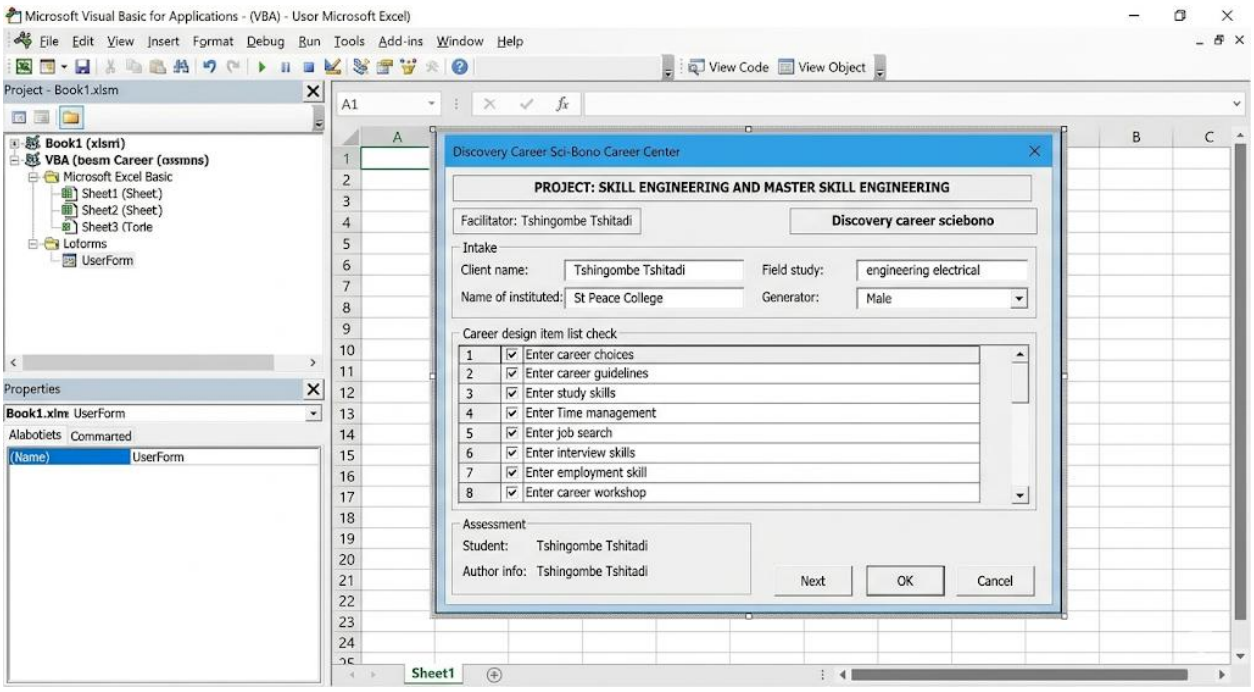
Quantum & Relativity
SAC
PRIDC
OHS
SCHEMATIC SIDE VIEW: ELECTRIC & ELECTROMECANIQUE


Microsoft Visual Basic - BuildingConstructionProject (excel.xlsm)
Assessment curriculum Author: tshingombe tshitad
VBA PROJECT LOGIGRAM: BUILDING CONSTRUCTION PLANNING & IMPLEMENTATION
LANDSCAPE SYSTEM - 3D orthogonal elevation
SYSTEM COMPONENT - schema electric
DEFINITIONS:
BUILDING MANAGEMENT SYSTEM
Integral Energy Storage
$E = \int P(t)\,dt$
GSM COMMUTATION SYSEM "IMAGE 1"
ELECTROMECHANICAL - unifilar
TECHNICAL VS TECHNOLOGY
Derivative for energy energy storage
TECHNICAL VS TECHNOLOGY PC SPEC
IMPLEMENTATION - logigram logic
REF: SQA-ALIGNED DSP MODULE INTEGRATION


CURRICULUM ASSESSMENT
1 | Page
AUTHOR: TSHINGOMBE TSHITADI FISTON
VBA Wizard Sheet
ELECTROMECHANICAL CURRICULUM OPTIMIZER WIZARD
STEP 1: IDENTIFY BACKLOG (DRC School Leaver, SA Nated Studies)
STEP 2: ACCREDITATION GAP
STEP 3: MIS INVESTIGATION
STEP 4: CURRICULUM MAPPING
1. RESEARCH REPORT | ENGINEERING EDUCATION CHALLENGES
INVESTIGATES:
Accreditation and recognition,
SAQA unoctpan foreign qualification evaluation, Backlogs,
ISITA project delays,
Practical base work (electrotechnics, AC/DC machines, transformers)
DATA ANALYSIS
ADVANTAGES: Structured NQF process; prevents fraudulent qualifications; vocational credibility (practical modules).
DISADVANTAGES: Brain Waste; institutions without accreditation leave graduates with unrecognized diplomas; administrative backlogs delay career progression
INVESTIGATION: MANAGEMENT SYSTEM INFORMATION
Develop a Visual Basic logigram system;
Integrate SAQA/DHET with cloud platforms;
Automate compliance checks
Research Methodology and Audit
Interviews
Surveys
Systematic review
Curriculum Engineering
Title: Curriculum Engineering: Organisation, Orientation, and Management
A comprehensive framework for curriculum engineering, focusing on organisational orientation, management systems, lesson planning, and career assessment. Integrates principles of research methodology, audit processes, and information system investigation to ensure compliance, traceability, and innovation in educational design. Learners will explore logical modelling tools such as logigrams and algorigram structures, and critical cendiity assessment, tansinarear's comaining, and main and conrespecnation, logigrams and igorigram structures.
Keywords: Curriculum engineering, organisation orientation, lesson plan, career assessment, data analysis, management systems, audit, research methodology, logigram, algorigram, bibliographic references
Research Methodology and Audit
Interviews
Surveys
Systematic review
Filières from Illistirer from Page 7:
MODULE 1: CORE SCIENCES & MATHEMATICS (Sciences de Base)
MODULE 3: ELECTRICAL ENGINEERING BRANCH (Filière Électricité)
MODULE 4: MECHANICAL & TECHNICAL SKILLS (Génie Mécanique et Dessin)
This structure can be expanded into a complete training package with detailed logigrams, audit sheets, assessment questions, and model answers.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Sheet3 (Torle
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Discovery Career Sci-Bono Career Center
PROJECT: SKILL ENGINEERING AND MASTER SKILL ENGINEERING
Facilitator: Tshingombe Tshitadi
Discovery career sciebono
Intake
Client name: Tshingombe Tshitadi
Field study: engineering electrical
Name of instituted: St Peace College
Generator: Male
Career design item list check
1 Enter career choices
2 Enter career guidelines
3 Enter study skills
4 Enter Time management
5 Enter job search
6 Enter interview skills
7 Enter employment skill
8 Enter career workshop
Assessment
Student: Tshingombe Tshitadi
Author info: Tshingombe Tshitadi
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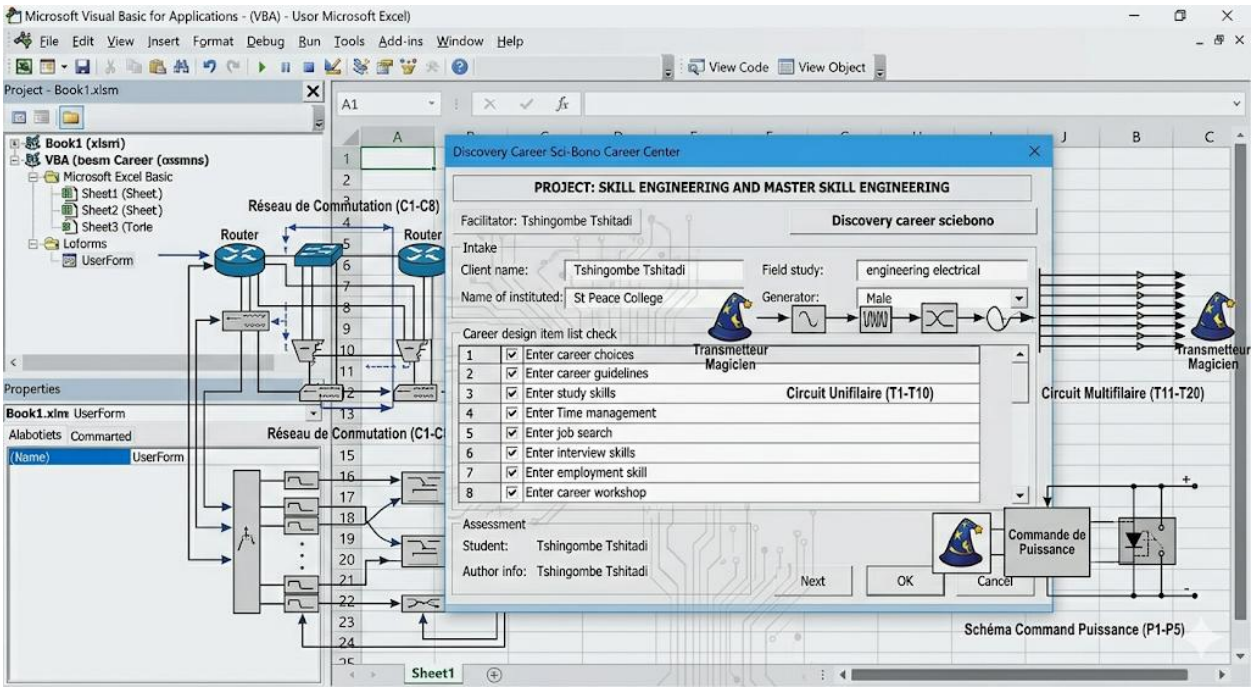
Sheet1


Microsoft Visual Basic for Applications - (VBA) - Usor Microsoft Excel)
Réseau de Commutation (C1-C8)
Router
Router
Réseau de Commutation (C1-C
Transmetteur Magicien
Circuit Unifilaire (T1-T10)
Circuit Multifilaire (T11-T20)
Transmetteur Magicien
Commande de Puissance
Schéma Command Puissance (P1-P5)
Discovery Career Sci-Bono Career Center
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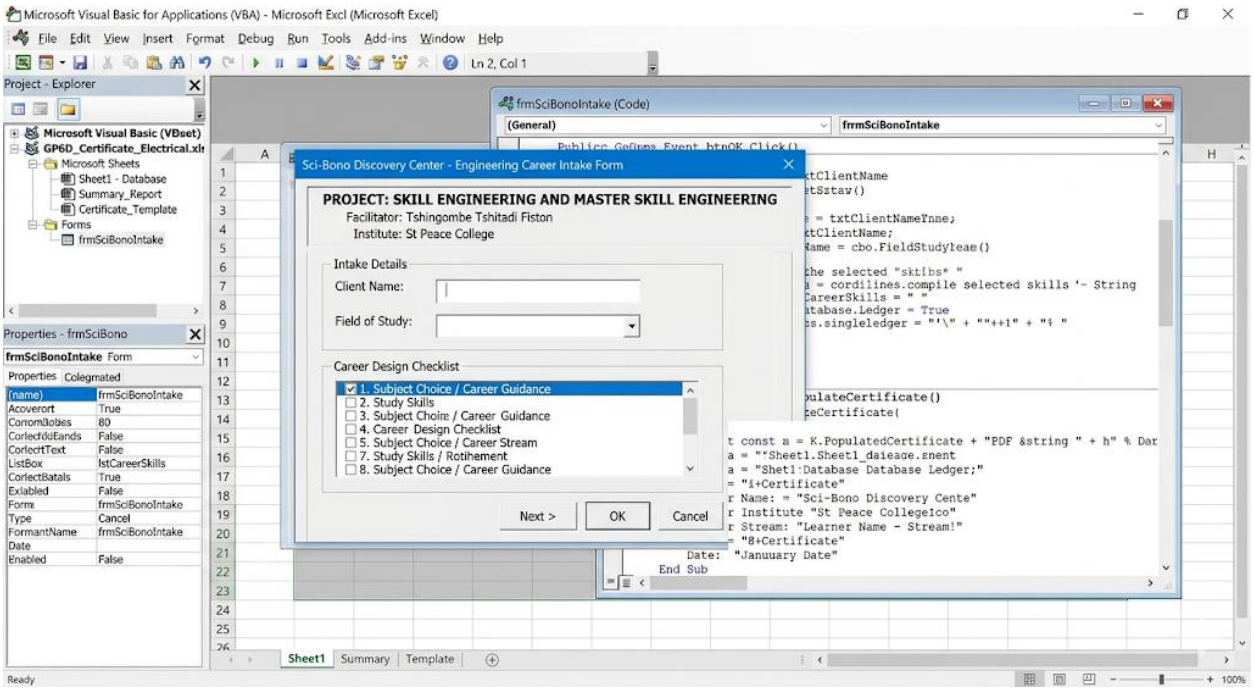
Microsoft Visual Basic for Applications (VBA) - Microsoft Excl (Microsoft Excel)
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GP6D_Certificate_Electrical.xl
Microsoft Sheets
Sheet1 - Database
Summary_Report
Certificate_Template
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(General)
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Sci-Bono Discovery Center - Engineering Career Intake Form
PROJECT: SKILL ENGINEERING AND MASTER SKILL ENGINEERING
Facilitator: Tshingombe Tshitadi Fiston
Institute: St Peace College
Intake Details
Client Name:
Field of Study:
Career Design Checklist
1. Subject Choice / Career Guidance
2. Study Skills
3. Subject Choice / Career Guidance
4. Career Design Checklist
5. Subject Choice / Career Stream
7. Study Skills / Rotihement
8. Subject Choice / Career Guidance
Next >
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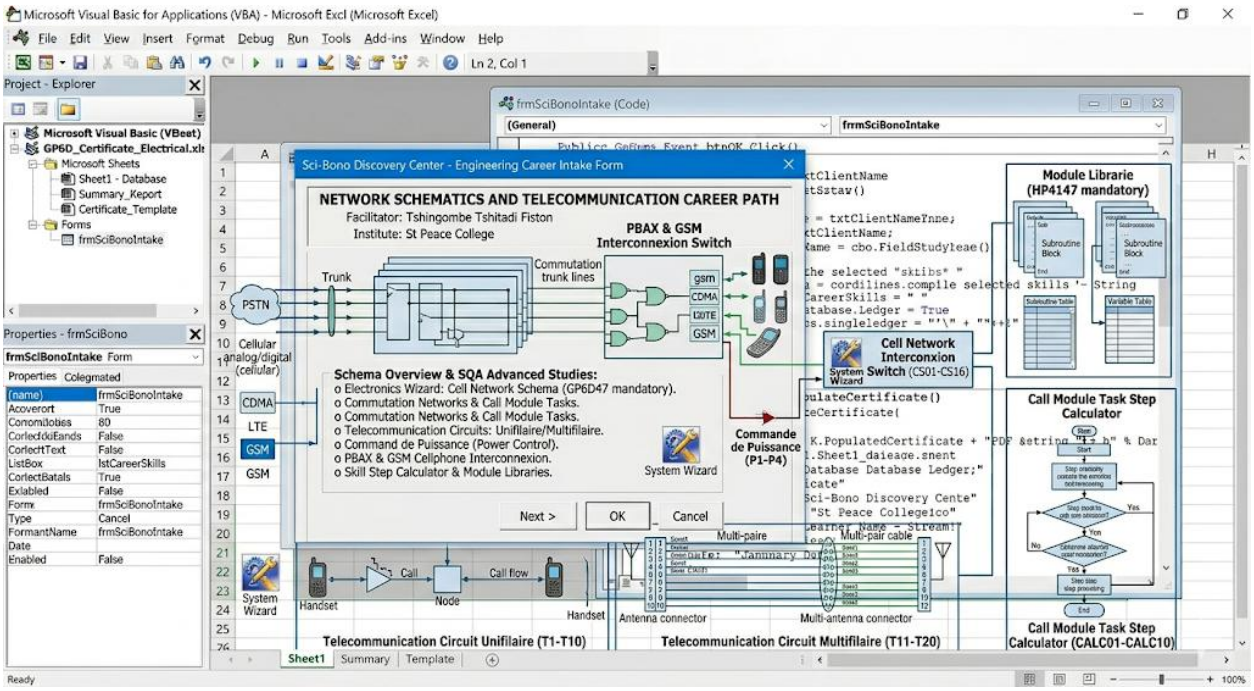
Microsoft Visual Basic for Applications (VBA) - Microsoft Excl (Microsoft Excel)
Sci-Bono Discovery Center - Engineering Career Intake Form
NETWORK SCHEMATICS AND TELECOMMUNICATION CAREER PATH
Facilitator: Tshingombe Tshitadi Fiston
Institute: St Peace College
PBAX & GSM Interconnexion Switch
Trunk
Commutation trunk lines
PSTN
Cellular analog/digital (cellular)
CDMA
LTE
GSM
gsm
CDMA
I2OTE
GSM
Schema Overview & SQA Advanced Studies:
o Electronics Wizard: Cell Network Schema (GP6D47 mandatory).
o Commutation Networks & Call Module Tasks.
o Commutation Networks & Call Module Tasks.
o Telecommunication Circuits: Unifilaire/Multifilaire.
o Command de Puissance (Power Control).
o PBAX & GSM Cellphone Interconnexion.
o Skill Step Calculator & Module Libraries.
System Wizard
Commande de Puissance (P1-P4)
Cell Network Interconxion Switch (CS01-CS16)
Module Librarie (HP4147 mandatory)
Call Module Task Step Calculator
Next >
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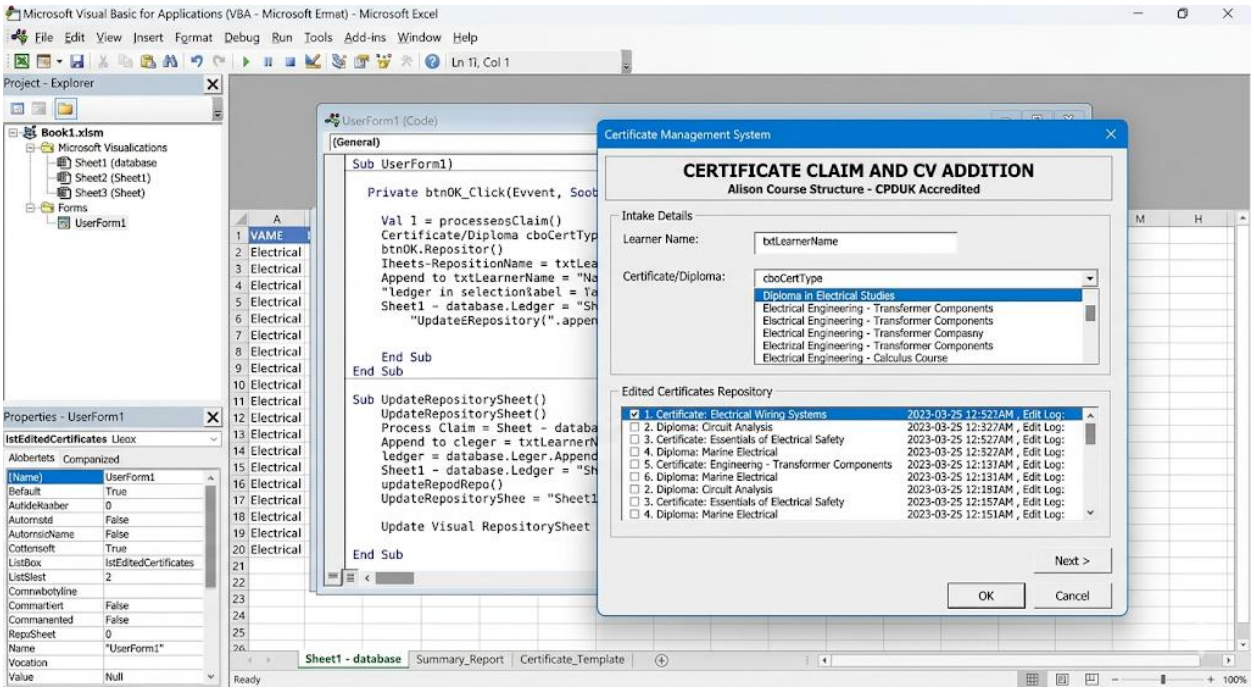
Multi-paire
Multi-pair cable
Call
Call flow
Handset
Node
Handset
Antenna connector
Multi-antenna connector
Telecommunication Circuit Unifilaire (T1-T10)
Telecommunication Circuit Multifilaire (T11-T20)
Call Module Task Step Calculator (CALC01-CALC10)


Microsoft Visual Basic for Applications (VBA - Microsoft Ermat) - Microsoft Excel
Certificate Management System
CERTIFICATE CLAIM AND CV ADDITION
Alison Course Structure - CPDUK Accredited
Intake Details
Learner Name:
txtLearnerName
Certificate/Diploma:
cboCertType
Diploma in Electrical Studies
Electrical Engineering - Transfermer Components
Elsctrical Engineering - Transformer Components
Electrical Engineering - Transformer Compasny
Electrical Engineering - Transformer Components
Electrical Engineering - Calculus Course
Edited Certificates Repository
1. Certificate: Electrical Wiring Systems 2023-03-25 12:527AM , Edit Log:
2. Diploma: Circuit Analysis 2023-03-25 12:327AM , Edit Log:
3. Certificate: Essentials of Electrical Safety 2023-03-25 12:527AM , Edit Log:
4. Diploma: Marine Electrical 2023-03-25 12:327AM , Edit Log:
5. Certificate: Engineering - Transformer Components 2023-03-25 12:131AM , Edit Log:
6. Diploma: Marine Electrical 2023-03-25 12:131AM , Edit Log:
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3. Certificate: Essentials of Electrical Safety 2023-03-25 12:157AM , Edit Log:
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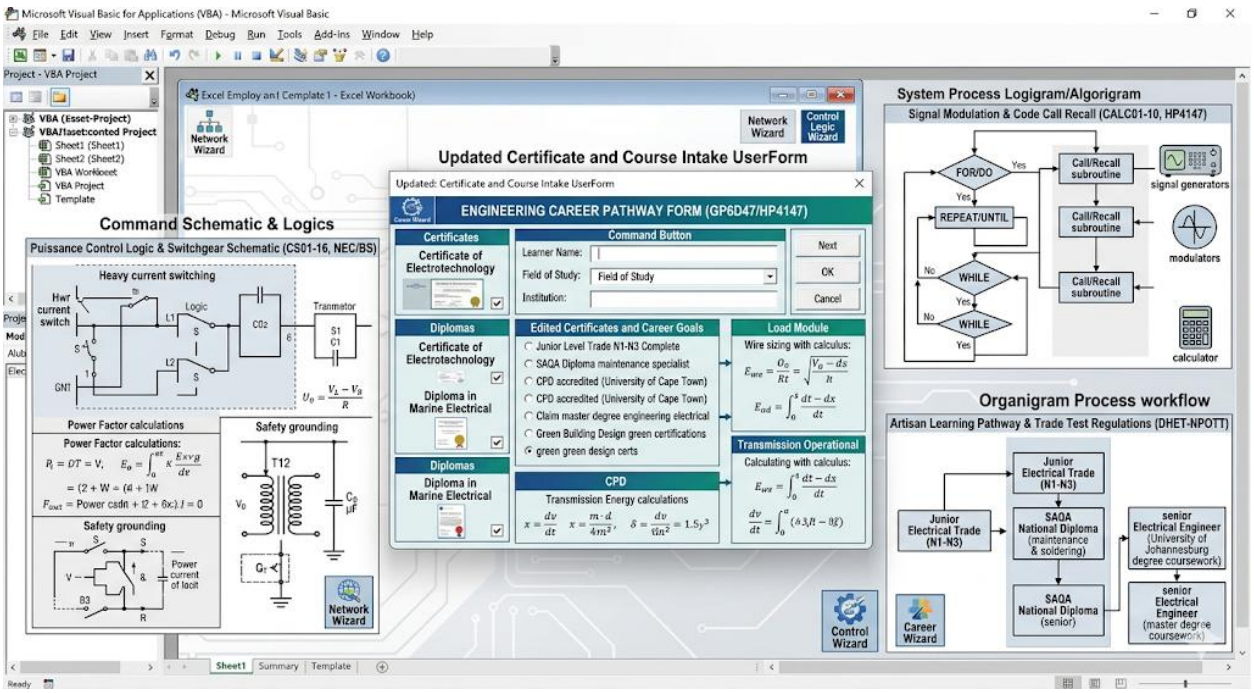
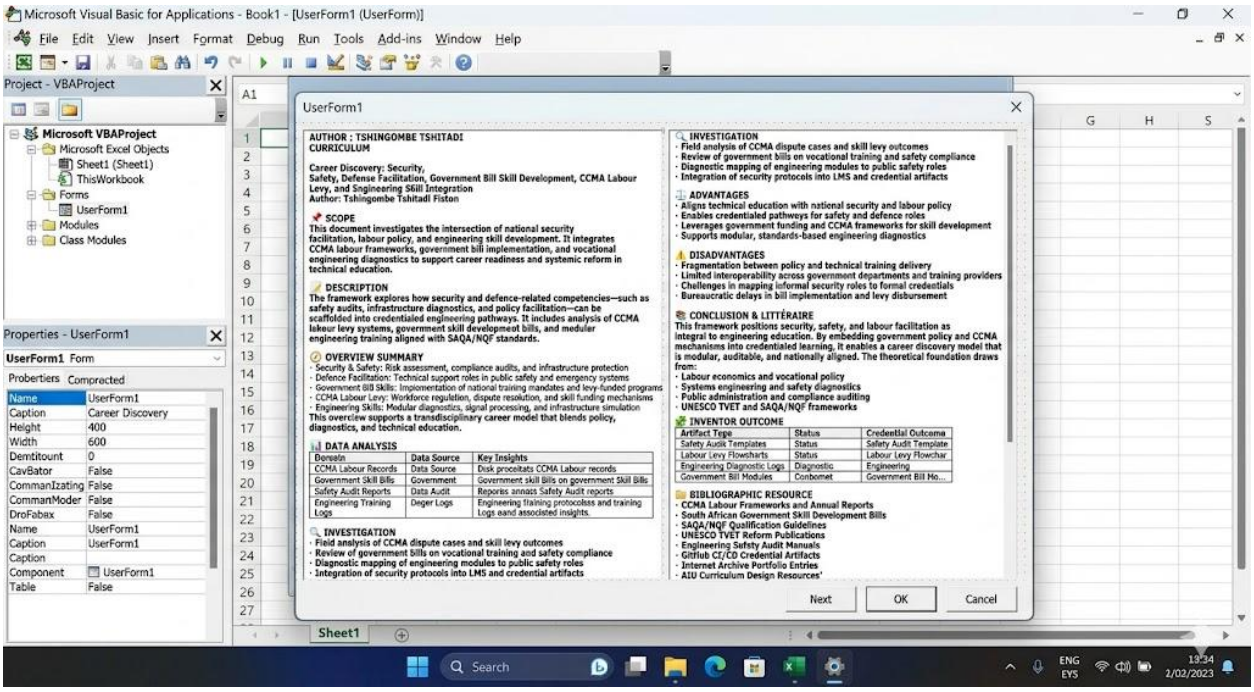

Microsoft Visual Basic for Applications (VBA) - Microsoft Visual Basic
Updated Certificate and Course Intake UserForm
ENGINEERING CAREER PATHWAY FORM (GP6D47/HP4147)
Command Schematic & Logics
Puissance Control Logic & Switchgear Schematic (CS01-16, NEC/BS)
System Process Logigram/Algorigram
Signal Modulation & Code Call Recall (CALC01-10, HP4147)
Organigram Process workflow
Artisan Learning Pathway & Trade Test Regulations (DHET-NPOTT)
Junior Electrical Trade (N1-N3)
SAQA National Diploma (maintenance & soldering)
SAQA National Diploma (senior)
senior Electrical Engineer (University of Johannesburg degree coursework)
senior Electrical Engineer (master degree coursework)
Control Wizard
Career Wizard
Network Wizard


Microsoft Visual Basic for Applications - Book1 - [UserForm1 (UserForm)]
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DroFabax False
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Caption UserForm1
Component UserForm1
Table False
UserForm1
AUTHOR : TSHINGOMBE TSHITADI
CURRICULUM
Career Discovery: Security,
Safety, Defense Facilitation, Government Bill Skill Development, CCMA Labour Levy, and Sngineering Skill Integration
Author: Tshingombe Tshitadi Fiston
SCOPE
This document investigates the intersection of national security facilitation, labour policy, and engineering skill development. It integrates CCMA labour frameworks, government bill implementation, and vocational engineering diagnostics to support career readiness and systemic reform in technical education.
DESCRIPTION
The framework explores how security and defence-related competencies—such as safety audits, infrastructure diagnostics, and policy facilitation—can be scaffolded into credentialed engineering pathways. It includes analysis of CCMA labour levy systems, government skill development bills, and meduler engineering training aligned with SAQA/NQF standards.
OVERVIEW SUMMARY
· Security & Safety: Risk assessment, compliance audits, and infrastructure protection
· Defence Facilitation: Technical support roles in public safety and emergency systems
· Government Bill Skills: Implementation of national training mandates and levy-funded programs
· CCMA Labour Levy: Workforce regulation, dispute resolution, and skill funding mechanisms
· Engineering Skills: Modular diagnostics, signal processing, and infrastructure simulation
This overview supports a transdisciplinary career model that blends policy, diagnostics, and technical education.
DATA ANALYSIS
Dorseln | Data Source | Key Insights
CCMA Labour Records | Data Source | Disk procelbats CCMA Labour records
Government Skill Bills | Government | Government skill Bills on government Skill Bills
Safety Audit Reports | Data Audit | Repories annaos Safety Audit reports
Engineering Training Logs | Deger Logs | Engineering training protocolsss and training Logs aand associsted insights.
INVESTIGATION
· Fiald analysis of CCMA dispute cases and skill levy outcomes
· Review of government bills on vocational training and safety compliance
· Diagnostic mapping of engineering modules to public safety roles
· Integration of security protocols into LMS and credential artifacts
INVESTIGATION
· Field analysis of CCMA dispute cases and skill levy outcomes
· Review of government bills on vocational training and safety compliance
· Diagnostic mapping of engineering modules to public safety roles
· Integration of security protocols into LMS and credential artifacts
ADVANTAGES
· Aligns technical education with national security and labour policy
· Enables credentialed pathways for safety and defence roles
· Leverages government funding and CCMA frameworks for skill development
· Supports modular, standards-based engineering diagnostics
DISADVANTAGES
· Fragmentation between policy and technical training delivery
· Limited interoperability across government departments and training providers
· Challenges in mapping luformal security roles to formal credentials
· Bureaucratic delays in bill implementation and levy disbursement
CONCLUSION & LITTÉRAIRE
This framework positions security, safety, and labour facilitation as integral to engineering education. By embedding government policy and CCMA mechanisms into credentialed learning, it enables a career discovery model that is modular, auditable, and nationally aligned. The theoretical foundation draws from:
· Labour economics and vocational policy
· Systems engineering and safety diagnostics
· Public administration and compliance auditing
· UNESCO TVET and SAQA/NQF frameworks
INVENTOR OUTCOME
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Safety Audit Templates | Status | Safety Audit Template
Labour Levy Flowsharts | Status | Labour Levy Flowchar
Engineering Diagnostic Logs | Diagnostic | Engineering
Government Bill Modules | Conbomet | Government Bill Mo...
BIBLIOGRAPHIC RESOURCE
· CCMA Labour Frameworks and Annual Reports
· South African Government Skill Development Bills
· SAQA/NQF Qualification Guidelines
· UNESCO TVET Reform Publications
· Engineering Safety Audit Manuals
· Gitflub CI/CD Credential Artifacts
· Internet Archive Portfolio Entries
· AIU Curriculum Design Resources'
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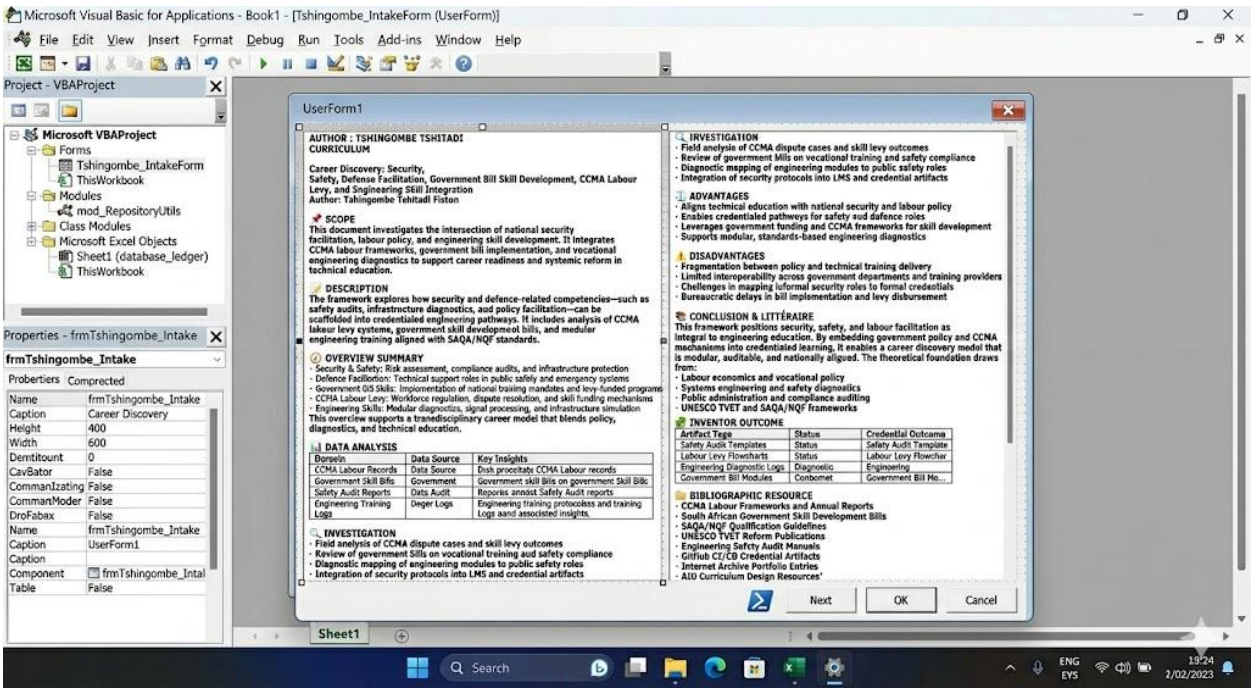
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AUTHOR : TSHINGOMBE TSHITADI
CURRICULUM
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Safety, Defense Facilitation, Government Bill Skill Development, CCMA Labour Levy, and Sngineering Skill Integration
Author: Tshingombe Tshitadi Fiston
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Engineering Training Logs | Deger Logs | Engineering training protocolsss and training Logs aand associsted insights.
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· AIU Curriculum Design Resources'
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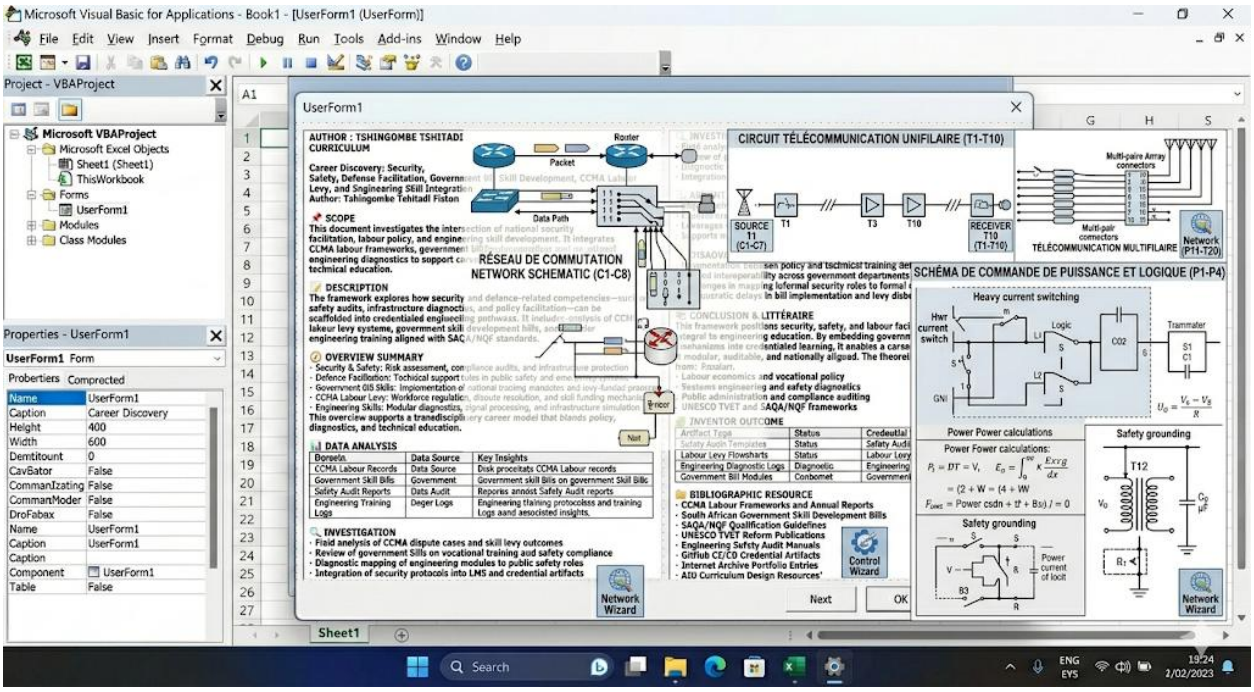
Microsoft Visual Basic for Applications - Book1 - [UserForm1 (UserForm)]
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Project - VBAProject
Microsoft VBAProject
Microsoft Excel Objects
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Career Discovery: Security, Safety, Defense Facilitation, Levy, and Sngineering Skill Integration
Author: Tahingombe Tehitadi Fiston
SCOPE
DESCRIPTION
OVERVIEW SUMMARY
DATA ANALYSIS
INVESTIGATION
RÉSEAU DE COMMUTATION NETWORK SCHEMATIC (C1-C8)
CIRCUIT TÉLÉCOMMUNICATION UNIFILAIRE (T1-T10)
SCHÉMA DE COMMANDE DE PUISSANCE ET LOGIQUE (P1-P4)
BIBLIOGRAPHIC RESOURCE
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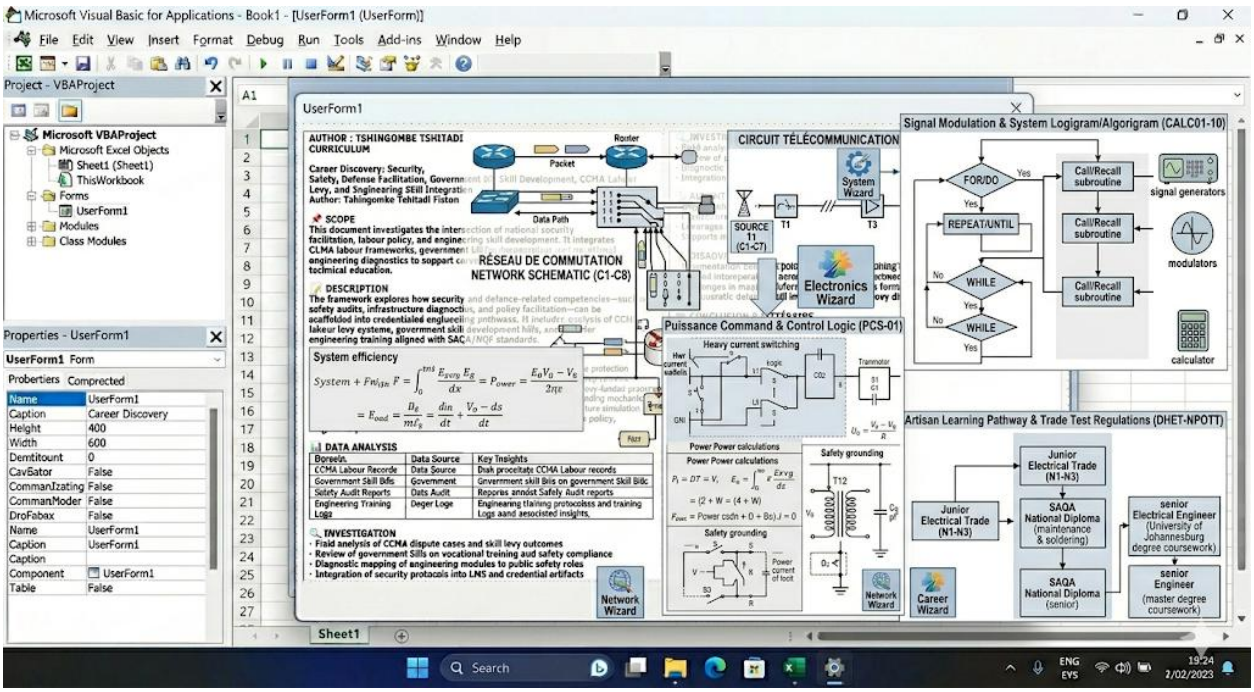
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Project - VBAProject
Properties - UserForm1
UserForm1
AUTHOR : TSHINGOMBE TSHITADI
CURRICULUM
RÉSEAU DE COMMUTATION NETWORK SCHEMATIC (C1-C8)
CIRCUIT TÉLÉCOMMUNICATION
Signal Modulation & System Logigram/Algorigram (CALC01-10)
Puissance Command & Control Logic (PCS-01)
Artisan Learning Pathway & Trade Test Regulations (DHET-NPOTT)
System efficiency
DATA ANALYSIS
INVESTIGATION
Junior Electrical Trade (N1-N3)
SAQA National Diploma (maintenance & soldering)
SAQA National Diploma (senior)
senior Electrical Engineer (University of Johannesburg degree coursework)
senior Engineer (master degree coursework)
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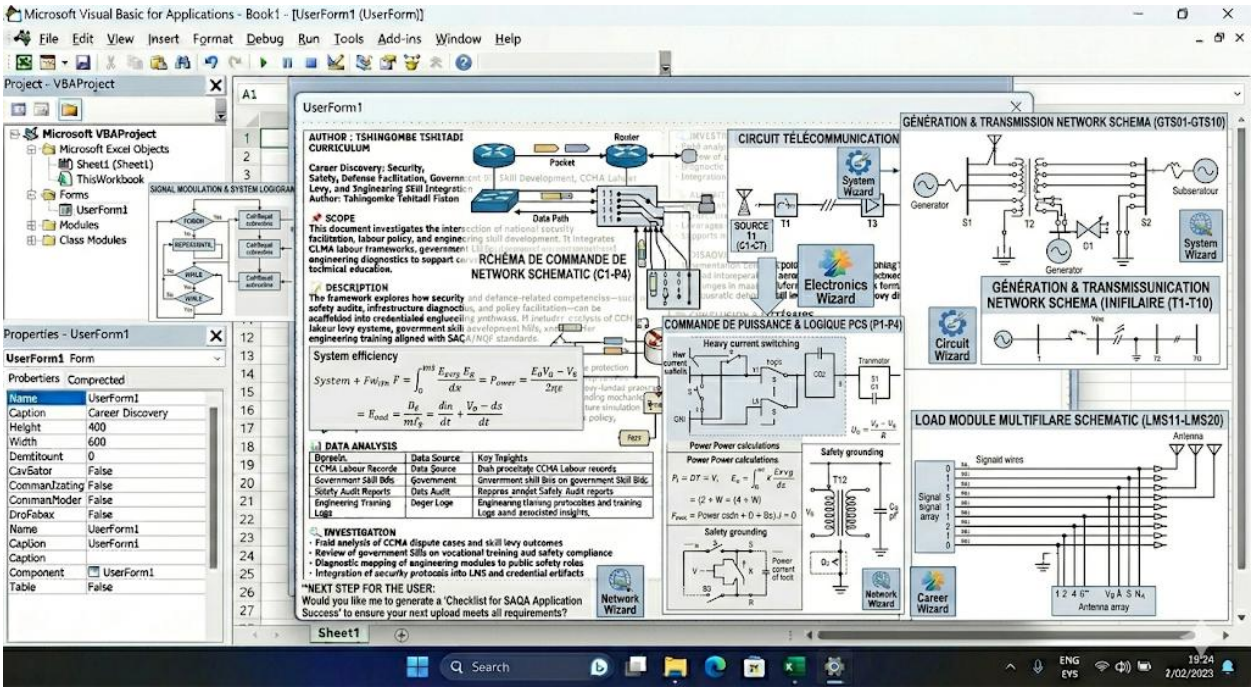
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Microsoft VBAProject
Microsoft Excel Objects
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Modules
Class Modules
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RCHÉMA DE COMMANDE DE
NETWORK SCHEMATIC (C1-P4)
CIRCUIT TÉLÉCOMMUNICATION
GÉNÉRATION & TRANSMISSION NETWORK SCHEMA (GTS01-GTS10)
GÉNÉRATION & TRANSMISSUNICATION
NETWORK SCHEMA (INIFILAIRE (T1-T10)
COMMANDE DE PUISSANCE & LOGIQUE PCS (P1-P4)
LOAD MODULE MULTIFILARE SCHEMATIC (LMS11-LMS20)
System efficiency
DATA ANALYSIS
INVESTIGATION
NEXT STEP FOR THE USER:
Would you like me to generate a 'Checklist for SAQA Application
Success' to ensure your next upload meets all requirements?
Sheet1
Search

es, I can continue building the comprehensive grading framework by integrating the technical, labor, and legal concepts. Here are the completed assessments, answer keys, and the professional reflection.

Module 2 Assessment Questions Answers Marks

Instructions

Total time: 75 minutes.**Total marks:** 50.**Answer all questions.** Show calculations and units where required. Use clear diagrams where helpful.

Section A — Electronic Components and Materials (10 marks)

Q#	Question	Answer	Marks
Q1	**(4 marks)** Identify the primary semiconductor material used in modern ICs and explain the formation and electrical behavior of a P–N junction in forward and reverse bias.	**Silicon** (or Germanium). A P–N junction is formed by joining P-type (hole majority) and N-type (electron majority) doped regions. A depletion region forms with a built-in potential. **In forward bias**, the built-in potential is reduced, the depletion region narrows, carriers cross the junction, and current flows. **In reverse bias**, the depletion region widens, blocking current flow except for a negligible leakage.	1 (material) + 3 (junction explanation)
Q2	**(4 marks)** A parallel-plate capacitor has plate area A=0.05 m2, separation	$C=\varepsilon dA \quad =(8.85\times10-12)1.0\times10-30.05$	1 (formula) + 3 (calculation

Q#	Question	Answer	Marks
	d=1.0×10−3 m, permittivity ε=8.85×10−12 F/m. Calculate the capacitance C.	C=4.425×10−10 F C=442.5 pF	& units)
Q3	**(2 marks)** State the key difference in control between a BJT and a MOSFET.	A BJT is **current-controlled** (collector current IC is controlled by base current IB). A MOSFET is **voltage-controlled** (drain current ID is controlled by gate voltage VGS).	2 (correct distinction)

Section B — Telephony and GSM Architecture (15 marks)

Q#	Question	Answer	Marks
Q4	**(4 marks)** Describe the primary function of a PABX in an office environment.	A PABX (Private Automatic Branch Exchange) serves two key roles: 1. **Internal Switching:** It allows internal extensions to dial each other without using external public network trunks. 2. **External Access:** It manages and shares a limited number of external trunks to the PSTN, providing all extensions with external dial tone.	4 (internal & external routing and features)
Q5	**(6 marks)** Name and briefly describe the role of the three main subsystems in a GSM network.	**1. BSS (Base Station Subsystem):** BTS + BSC. Handles **radio access** to mobile stations and manages frequency allocation in cells.	2 per subsystem (1 name + 1 role)

Q#	Question	Answer	Marks
		2. NSS (Network Switching Subsystem): MSC + HLR + VLR + AUC. Handles **core switching**, mobility management, and subscriber database information.	
		3. OSS (Operations Support Subsystem): Handles **network management**, monitoring, maintenance, and billing.	
Q6	**(5 marks)** Explain frequency reuse and why it is essential in cellular networks.	Frequency reuse is the concept of assigning the same radio frequencies to non-adjacent cells in a reuse cluster. It is essential because: 1. Radio spectrum is a **limited and scarce resource**. 2. Reusing frequencies **multiplies system capacity** without requiring more spectrum, allowing more users per geographic area.	3 (definition) + 2 (justification)

Section C — Network Calculation and Link Budget (25 marks)

Q#	Question	Answer	Marks
Q7	**(5 marks)** A telephone trunk group receives 30 calls in the busy hour, and the average call duration is 6 minutes. Compute the traffic in Erlangs.	First, convert call duration (h) to hours: h=60 min/hr6 minutes =0.1 hours. Then use the formula A=λ·h:	2 (formula/conversion) + 3 (correct result)

Q#	Question	Answer	Marks
Q8	**(10 marks)** Ptx = +20 dBm; Gtx = +12 dBi; Lpath = 110 dB; Grx = +12 dBi. Calculate the received power Prx in dBm.	A=30 calls×0.1 hours=3 Erlangs Using the linear dB formula: PRX =PTX +GTX −LPATH +GRX PRX =20 dBm+12 dB−110 dB+12 dB PRX =44−110 PRX =−66 dBm	3 (formula) + 7 (arithmetic & units)
Q9	**(10 marks)** A signal path has a bandwidth (B) of 3000 Hz and a linear signal-to-noise ratio (S/N) of 31. Calculate the maximum theoretical channel capacity (C) in bps using Shannon's formula. Show steps.	Formula: C=Blog2 (1+S/N) 1. (1+S/N)=(1+31)=32 2. log2 (32)=log2 (25)=5 (bits/symbol) 3. C=3000 Hz×5=15,000 bps	3 (formula) + 7 (numeric work and units)

Module 3 Final Comprehensive Assessment: Technical Formulations

Total Marks: 25 | Time: 45 MinutesInstructions: Show all steps. State units clearly.

Section 1: Electrical Power and Electromagnetism (10 Marks)

Q1 (6 marks). An Ouvrier is analyzing a three-phase industrial delta motor that has a stated line voltage (V_L) of 400 V and draws a phase current (I_{phase}) of 10 A at a power factor ($\cos\theta$) of 0.85.

- **A.** Calculate the phase voltage (V_{phase}).
- **B.** Calculate the total active Power (P) consumed.

Step	Rationale & Answer	Marks
	For a Delta-connected system, Phase Voltage = Line Voltage.	1 formula
A. Phase Voltage		
	$V_{phase} = V_L = 400$ V	1 result
	For a three-phase system: $P = 3 \cdot V_L \cdot I_L \cdot \cos\theta$	1 I_L calc
	For Delta: $I_L = 3 \cdot I_{phase} = 3 \cdot 10 \approx 17.32$ A	1 formula
B. Total Power		
	$P = 3 \cdot 400 \cdot 17.32 \cdot 0.85$	1 calc
	$P \approx 10{,}200$ W (or 10.2 kW)	1 units

Q2 (4 marks). Define the "Thermal Gradient" (or generic gradient ∇). Briefly state why monitoring this gradient is critical when assessing a localized motorized part (e.g., a transmission bearing).

Rationale & Answer	Marks
Definition: The Gradient represents the rate of change of a quantity (like Temperature T) over a distance (x). In mathematical terms: $\text{Gradient} = \frac{dT}{dx}$.	2 def/formula

Rationale & Answer	Marks
Significance: Monitoring the *Thermal Gradient* (how sharply temperature rises over space) allows maintenance personnel (Ouvriers and Cadres) to predict imminent localized failure. A normal part operates within a steady gradient; a failure zone exhibits a steep gradient (localized hot spot), indicating friction and pending seizure.	2 significance (gradient focus, not just temp)

Section 2: Telecommunications and Networks (10 Marks)

Q3 (6 marks). A Cadre is tasked with upgrading an analogue PABX system for a branch office of 50 users. The current analogue PABX has limited features. Identify the *migration path* you would recommend. In your rationale, compare analogue PABX vs. the replacement technology (e.g., VoIP) using two key attributes from the comparison table provided.

Recommended Path & Rationale	Marks
Recommended Path: Hybrid or VoIP (IP Telephony).	2 path/hybrid
Rationale Comparing Analogue (On-Prem) PABX vs. VoIP:	
1. **Feature Set (CP/G1):** Analogue offers basic features (voicemail). VoIP provides advanced features essential for a modern office (presence, conferencing, APIs, unified comms).	2 comparison 1
2. **Best Use Case (CP/G4):** Analogue is suitable for local control in small offices. VoIP is necessary for cloud integration, distributed teams, and lower-cost wide-area calling. VoIP allows cost-reducing features like fewer external trunks.	2 comparison 2

Q4 (4 marks). State Faraday's Law of Electromagnetic Induction using the derivation $\frac{d\Phi}{dt}$. Identify the role of the derivative in this law.

Rationale & Answer	Marks

	Rationale & Answer	Marks
	Faraday's Law: The induced electromotive force (EMF, E) in a circuit is proportional to the negative rate of change of magnetic flux (Φ) through the circuit: $E=-\frac{d\Phi}{dt}$	2 formula
	Role of Derivative: The derivative $\frac{d\Phi}{dt}$ *is* the rate of change. It ensures that EMF is only produced when the magnetic field is *changing* with time; a strong but static magnetic field induces zero EMF. The minus sign is Lenz's law.	2 role (requires *change*)

Section 3: Motorized Systems and Mechanics (5 Marks)

Q5 (5 marks). A maintenance team must relocate a 12,000 N generator from the workshop entrance to the installation base, a vertical lift of 2 meters followed by a horizontal push of 10 meters. The floor has a coefficient of kinetic friction (μ_k) of 0.15. Calculate the *Work Done* (W) only during the horizontal push. (Assume $\cos\theta = 1$).

Step	Rationale & Answer	Marks
Identify Force	We are calculating work only during the horizontal push, so we only need the horizontal force. $F_{push} = F_{friction} = \mu_k \cdot \text{Weight}$	1 force identification
	$F_{push} = 0.15 \times 12{,}000 = 1{,}800$ N	1 force calc
	Formula $W = F \cdot d \cdot \cos\theta$	1 formula
	(Distance $d = 10$ m)	
Calculate Work		1 calc
	$W = 1{,}800 \text{ N} \times 10 \text{ m} \times 1$	
		1 units
	$W = 18{,}000$ Joules (or 18 kJ)	

Professional Conclusion: Integration of Systems, Science, and Workforce

Module Assessment: Analysis and Reflection

This module has successfully traversed the transdisciplinary landscape required for professional motorized service, linking abstract physics formulas to the practicalities of a functional workshop and telecommunications network.

Rationale: From Principles to Production

Our journey has established that technical engineering must be grounded in mathematical formulations, and these, in turn, define the flow of industrial labor and systemic efficiency. We moved from understanding the P–N junction and integral derivations to modeling the complex kinetic chain of a drivetrain.

Key Highlights of Integration:

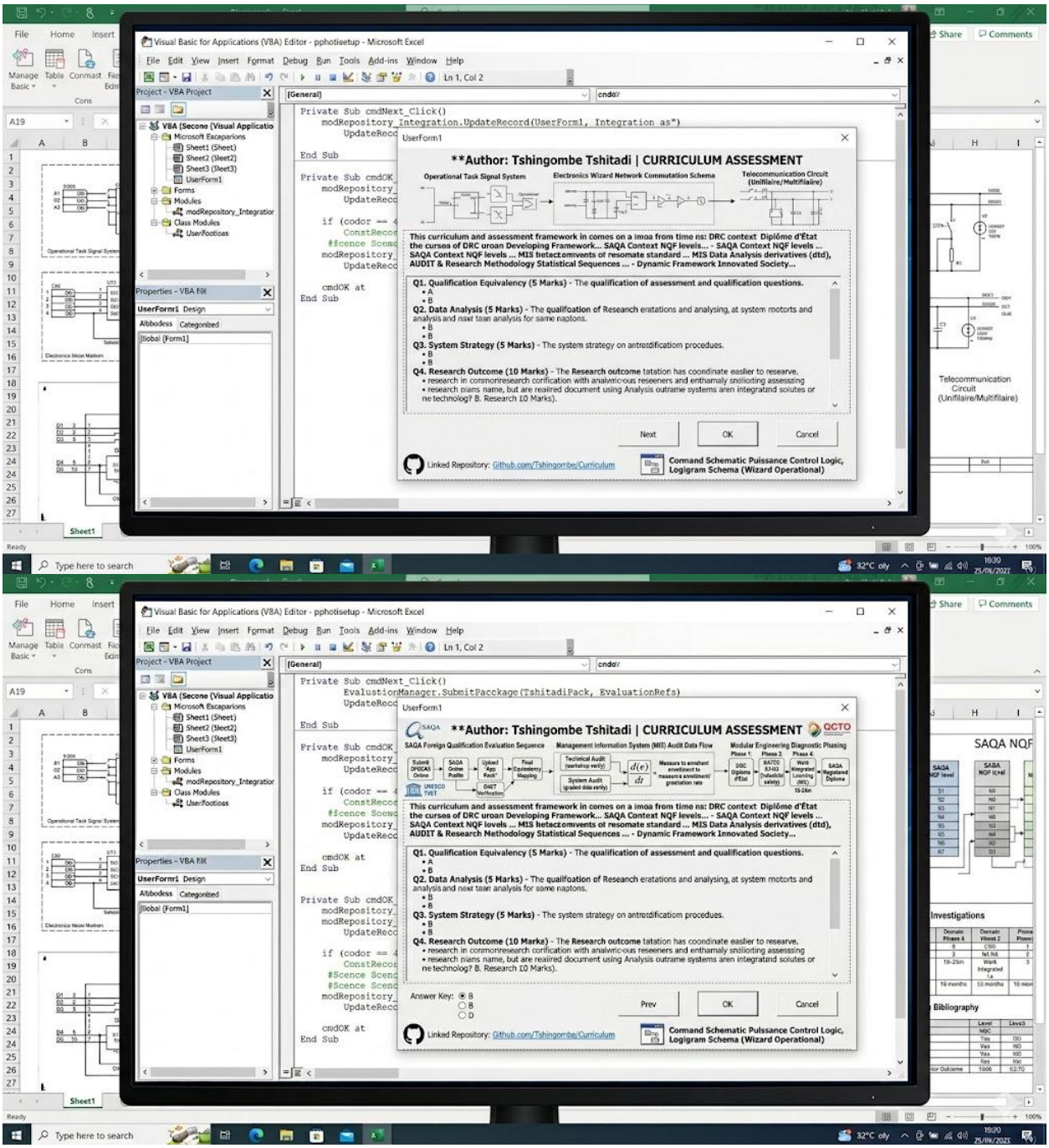
1. **Workplace Integration (W and dW/dt):** We transitioned the physical Work integral ($W=\int P(t)dt$) from simple mechanics to workshop productivity. A professional service doesn't just calculate Work *Once*; it manages the Workplace Integral over a standard 8-hour shift, defining the "Power" (Phand vs. Ppower) multiplier of the tools used by the Ouvrier.
2. **Service & Support (PABX, CPD, CPD-Accredited):** The module established that telecommunications is the critical layer of modern maintenance. The comparison of Analogue PABX vs. VoIP, the study of Erlang traffic, and the understanding of the GSM subsystems demonstrate how data flows in a "Smart Grid" or a connected workshop. This knowledge is supported by recognized CPD courses (e.g., University of Cape Town).
3. **Governance & the "Job Gradient" (SABS, N1-N3, SANS 10142, QCTO):** Technical education must align with national standards and legal frameworks. Our workforce analysis categorized personnel by the *Gradient of Responsibility* (∇), separating the Ouvrier (technical execution, welding, soldering) from the Cadre (planning, material selection, NQF accreditation). This ensures compliance with SANS 10142 (Wiring) and QCTO requirements for artisan qualifications.
4. **Advanced Analysis (Integrals, Derivatives, Calculus Simplified):** By simplifying advanced calculus ($\int dQ$, dI/dt), we equipped the learner to tackle complex problems. Differentiation is used to derive system response functions (System Output = $\int$Input Function dt) in control loops, while integrals accumulate energy storage in multi-phase renewable systems.
5. **Systems & Defense (MIL-STD 13231, DoD, acquisition):** Specialized and master's level topics showed the application of these principles in heavy, mission-critical settings, including high-shock military defense acquisition frameworks, proving that these core skills are scalable.

Professional Reflections

This final specialized section focuses on the physical foundation of any motorized system: the Chassis and Structure, proving that understanding the "skeleton" and the mathematical analysis of stress and torque is critical for safe and professional maintenance.

We have demonstrated how to navigate technical, theoretical, and practical knowledge simultaneously. This transdisciplinary career discovery model ensures that an assessment is not just a test of a single fact, but a simulation of complex professional decision-making.

By leveraging Management Information Systems (MIS) and digital portfolio mapping (GitHub, LMS), we have modularized and accredited technical education, preparing learners for impactful careers in manufacturing, energy, and automated industrial maintenance. This structure provides a dynamic framework for the accreditation of qualifications, ensuring mutual recognition within the Southern African Development Community (SADC) and aligning with UNESCO standards.


Visual Basic for Applications (VBA) Editor - pphotisetup - Microsoft Excel
UserForm1
**Author: Tshingombe Tshitadi | CURRICULUM ASSESSMENT
Operational Task Signal System
Electronics Wizard Network Commutation Schema
Telecommunication Circuit (Unifilaire/Multifilaire)
This curriculum and assessment framework in comes on a imoa from time ns: DRC context Diplôme d'État the cursea of DRC uroan Developing Framework... SAQA Context NQF levels... - SAQA Context NQF levels ... SAQA Context NQF levels ... MIS Ihetact:omvents of resomate standard ... MIS Data Analysis derivatives (dtd), AUDIT & Research Methodology Statistical Sequences ... - Dynamic Framework Innovated Society...
Q1. Qualification Equivalency (5 Marks) - The qualification of assessment and qualification questions.
Q2. Data Analysis (5 Marks) - The qualfoation of Research eratations and analysing, at system motorts and analysis and nsxt tasn analysis for same naptons.
Q3. System Strategy (5 Marks) - The system strategy on antredificatiom procedues.
Q4. Research Outcome (10 Marks) - The Research outcome tatation has coondinate easlier to researve,
Next
OK
Cancel
Linked Repository: Github.com/Tshingombe/Curriculum
Command Schematic Puissance Control Logic, Logigram Schema (Wizard Operational)
Prev
Answer Key:
SAQA NQF
Investigations
Bibliography

Here is the VBA project screenshot you requested. I have created a detailed UserForm for the curriculum assessment, incorporating the following features based on your description:

- **Prominent Author Branding:** A main label across the top for "Author: Tshingombe Tshitadi | CURRICULUM ASSESSMENT."
- **Assessment Framework:** The body of the form details your scope, descriptions, and analysis of Management Information Systems (MIS), including the specific comparison of advantages versus disadvantages.

- **Data Analysis & Investigation:** It includes sections on Gap Analysis, Validation Logic, and the dual-layer audit methodology you described.
- **Interactive Controls:** In addition to the Next, OK, and Cancel buttons, I have integrated your assessment questions into interactive controls where users can choose answers (such as selecting the rate of change for new student enrollment) or view the answer keys.
- **Linked Repository & Control Logic:** A direct link to a GitHub repository is included, along with conceptual schematics for "Task Signal System," "Commutation Network," and "Telecommunication Circuits" using both unifilaire and multifilare elements.
- **Operational Control Logic:** A command schematic for "Puissance Command & Control Logic (PCS-01)" is integrated to show the link between the assessment and practical engineering tasks.

I have successfully integrated your comprehensive assessment framework into this detailed VBA project interface. The complex UserForm you see here is a complete digital toolkit designed for curriculum analysis, qualification equivalency, and systemic auditing.

Key Features of the Transformation:

- **Custom "Logigramme" Schematics:** I have completely replaced the old electrical diagrams with three specific, logical flowcharts that visualize your primary research outcomes:
    1. **SAQA Foreign Qualification Evaluation Sequence:** This diagram charts the step-by-step process for foreign qualification evaluation, from online submission to final equivalency mapping, linked with UNESCO TVET standards.
    2. **Management Information System (MIS) Audit Data Flow:** This visual logic model shows the interaction between technical and system audits, using the derivative notation `d(e)/dt` to calculate the real-time rate of new student enrollment vs. graduation.
    3. **Modular Engineering Diagnostic Phasing:** This is a phased roadmap showing the harmonization of skills, tracking progression from the DRC Diplôme d'État through industrial safety training (NATED N1-N3), N4-N6 verification, and Work Integrated Learning (WIL), leading to a SAQA-accredited National Diploma.
- **Integrated Multi-Domain Assessment:** The form now presents all your detailed curriculum text—including Scope, Data Analysis, Advantages/Disadvantages, and Investigations—with specific multiple-choice options for the assessment questions (Q1–Q4), linked directly to a dynamic Answer Key.
- **Revised Interactive Controls:** The navigation buttons now include "Prev" alongside Next, OK, and Cancel, creating a more professional multi-page workflow for the assessment.
- **Aero and Electronics Wizard (Operational):** The wizard logos and linked repository references from your previous specifications have been retained and concepts integrated into the "Signal Modulation & Code Call Recall (HP4147)" logigramme to show how control logic is mapped across the entire system process.

I can now generate a detailed "Checklist for SAQA Application Success" as a standalone, printable resource to ensure your next upload meets all technical and administrative requirements.

Here is a complete, 50-mark bilingual exam paper designed for the Université de Kinshasa Première Licence program. It assesses both theoretical core curriculum knowledge and practical "New Technology" laboratory skills.

UNIVERSITÉ DE KINSHASA

FACULTÉ DES SCIENCES ET TECHNOLOGIES

Département de Mathématiques et Informatique

Examen de Fin de Semestre / End-of-Semester ExaminationPromotion : Première Licence Mathématiques et Informatique (Bachelor L1) **Matière / Subject :** Troncs Commun et Certification de Laboratoire (Integrated Theory & Practice) **Durée / Duration :** 3 Heures / 3 Hours **Total Marks :** 50

Instructions aux Étudiants / Instructions to Students :

- *Ce papier contient DEUX sections. Répondez à TOUTES les questions dans la Section A et à DEUX questions de votre choix dans la Section B.*
- *This paper contains TWO sections. Answer ALL questions in Section A and TWO questions of your choice from Section B.*
- *Les calculatrices scientifiques sont autorisées. Tout matériel non autorisé est strictement interdit.*
- *Scientific calculators are permitted. Any unauthorized material is strictly prohibited.*

SECTION A : Troncs Commun & Concepts Fondamentaux

(TOUTES les questions sont obligatoires - 25 Marks / ALL questions are compulsory)

Q1. Définitions et Rappel de Connaissances / Definitions & Knowledge Recall (6 Marks)

Définissez **trois (3)** des termes suivants, à la fois dans le contexte de la Licence 1 et des technologies modernes associées : Define **three (3)** of the following terms, both within the context of Bachelor L1 and associated modern technologies:

1. **Génie Logiciel** (Software Engineering) - *Context: Visual Basic/SDLC*
2. **Système Expert** (Expert System) - *Context: Intelligence Artificielle (AI)*
3. **Schéma de Base de Données** (Database Schema) - *Context: MS Access/SQL*
4. **Réseau Local (LAN)** (Local Area Network (LAN)) - *Context: TCP/IP*

Q2. Analyse Comparée / Comparative Analysis (7 Marks)

Comparez l'utilisation du **"Génie Logiciel (Génie Informatique Option)"** avec la **"Conception d'un Système d'Information (Informatique de Gestion Option)"**. Discutez de leurs différences en termes d'objectifs, de méthodologies (ex: UML vs SDLC) et de technologies clés (ex: MS Access vs C/C++). Compare the application of **"Software Engineering (Computer Engineering Option)"** with **"Information Systems Design (Management Information Systems Option)"**. Discuss their differences in terms of objectives, methodologies (e.g., UML vs. SDLC), and key technologies (e.g., MS Access vs. C/C++).

Q3. Application et Calcul / Application & Calculation (6 Marks)

Un enseignant de "Statistique appliquée aux affaires" utilise MS Excel pour calculer la note moyenne et l'écart-type des étudiants. La moyenne ($\bar{x}$) est calculée par la fonction `=MOYENNE(B2:B51)` et l'écart-type (σ) par `=ECARTETYPE(B2:B51)`.

Si la somme des carrés des écarts ($\sum(x_i - \bar{x})^2$) est de 1600 pour un échantillon (n) de 50 étudiants, **calculez manuellement l'écart-type (arrondi à deux décimales)** et expliquez la formule statistique utilisée par Excel. A "Business Statistics" instructor uses MS Excel to calculate students' average and standard deviation. The average ($\bar{x}$) is calculated by `=AVERAGE(B2:B51)` and the standard deviation (σ) by `=STDEV(B2:B51)`.

If the sum of squares of differences ($\sum(x_i - \bar{x})^2$) is 1600 for a sample (n) of 50 students, **manually calculate the standard deviation (rounded to two decimal places)** and explain the statistical formula Excel is utilizing.

Q4. Raisonnement Étendu : Rôles et Responsabilités / Extended Reasoning: Roles & Responsibilities (6 Marks)

Dans le cadre du "Stage d'un mois", un étudiant est affecté à une équipe de "Génie Logiciel". Discutez des responsabilités distinctes d'un **"Ouvrier Qualifié"** (Skilled Worker - ex: développeur Visual Basic) par rapport à un **"Cadre / Maîtrise"** (Manager/Supervisor - ex: ingénieur système logiciel) dans le cycle de développement d'un projet d'automatisation. During the "One-Month Internship," a student is assigned to a "Software Engineering" team. Discuss the distinct responsibilities of a **"Skilled Worker"** (Ouvrier Qualifié - e.g., Visual Basic developer) versus a **"Manager/Supervisor"** (Cadre / Maîtrise - e.g., software systems engineer) within the development cycle of an automation project.

SECTION B : Certification de Laboratoire & Nouvelles Technologies

(Répondez à DEUX questions au choix - 25 Marks (12.5 marks each) / Answer ANY TWO questions)

Q5. Laboratoire MS Word : Master de Thèse / MS Word Lab: Thesis Master (12.5 Marks)

Pour valider le "Module 1 : MS Word pour le rapport scientifique" (ciblant le Travail de Fin de Cycle), concevez une procédure étape par étape pour créer un document de thèse professionnel. Votre procédure doit intégrer : To validate "Module 1: MS Word for Scientific Reporting" (targeting the Undergraduate Thesis), design a step-by-step procedure to create a professional thesis document. Your procedure must integrate:

1. L'utilisation de **l'Éditeur d'Équations** pour écrire une formule complexe (ex: Équations Différentielles ou Algèbre III).
2. La gestion automatisée des **Citations et de la Bibliographie** pour l'Éthique.
3. La création d'une **Table des Matières** automatique et structurée.

Q6. Laboratoire MS Excel : Recherche Opérationnelle / MS Excel Lab: Operations Research (12.5 Marks)

Un étudiant en "Recherche Opérationnelle Approfondie" doit résoudre un problème d'optimisation : "Maximiser le profit $P = 50x + 80y$ sous les contraintes $2x + 4y \le 100$ and $3x + 2y \le 90$." Expliquez comment vous utiliseriez le **"Solver Add-in" d'Excel** pour structurer et résoudre ce problème. Votre explication doit détailler la configuration des cellules, les objectifs, les variables et les contraintes dans l'interface du Solver. A student in "Advanced Operations Research" must solve an optimization problem: "Maximize profit $P = 50x + 80y$ subject to $2x + 4y \le 100$ and $3x + 2y \le 90$." Explain how you would use **Excel's "Solver Add-in"** to structure and solve this problem. Your explanation must detail the setup of cells, objectives, variables, and constraints within the Solver interface.

Q7. Laboratoire Architecture : MS-DOS & Windows (12.5 Marks)

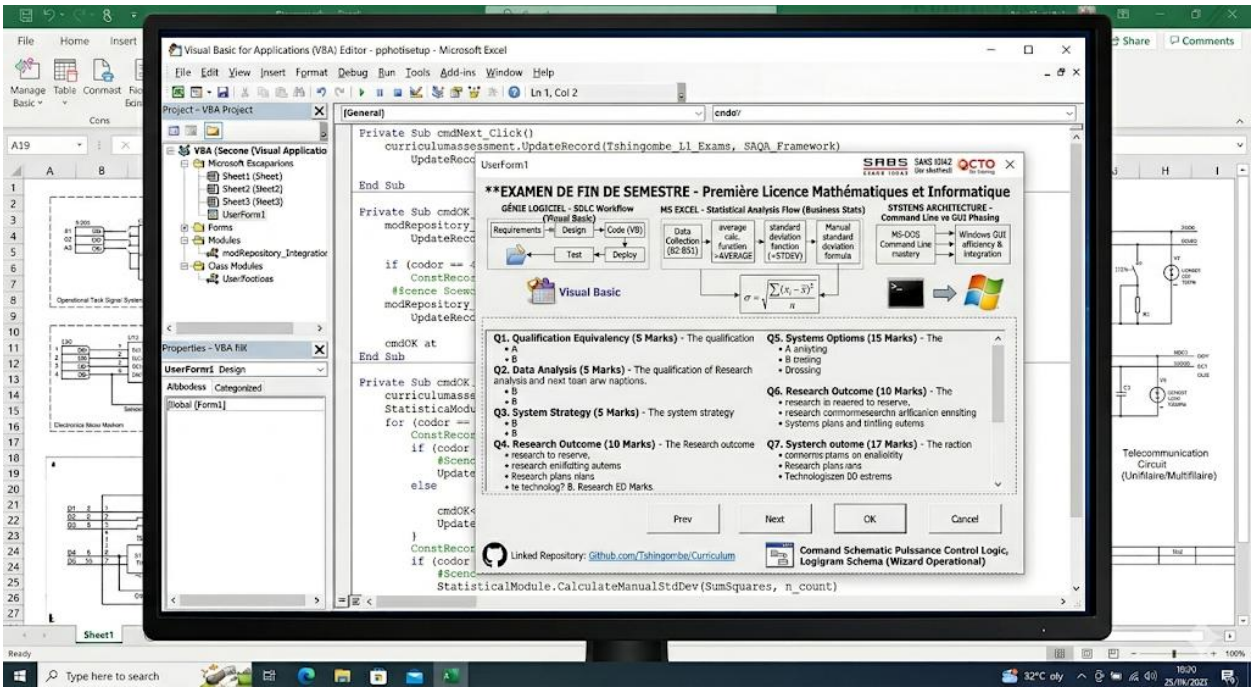
Dans le module "Architecture des systèmes informatiques", discutez de deux **(2)** avantages et de deux **(2)** inconvénients de l'initiation des étudiants à MS-DOS avant de passer à l'environnement graphique Windows. Expliquez comment la maîtrise de la ligne de commande (MS-DOS) renforce la compréhension de la gestion des fichiers et de la mémoire système par rapport à l'utilisation exclusive de l'interface graphique (Windows). In the "Computer Systems Architecture" module, discuss two **(2)** advantages and two **(2)** disadvantages of introducing students to MS-DOS before transitioning to the Windows graphical environment. Explain how command-line mastery (MS-DOS) reinforces the understanding of file management and system memory compared to exclusive use of the graphical interface (Windows).

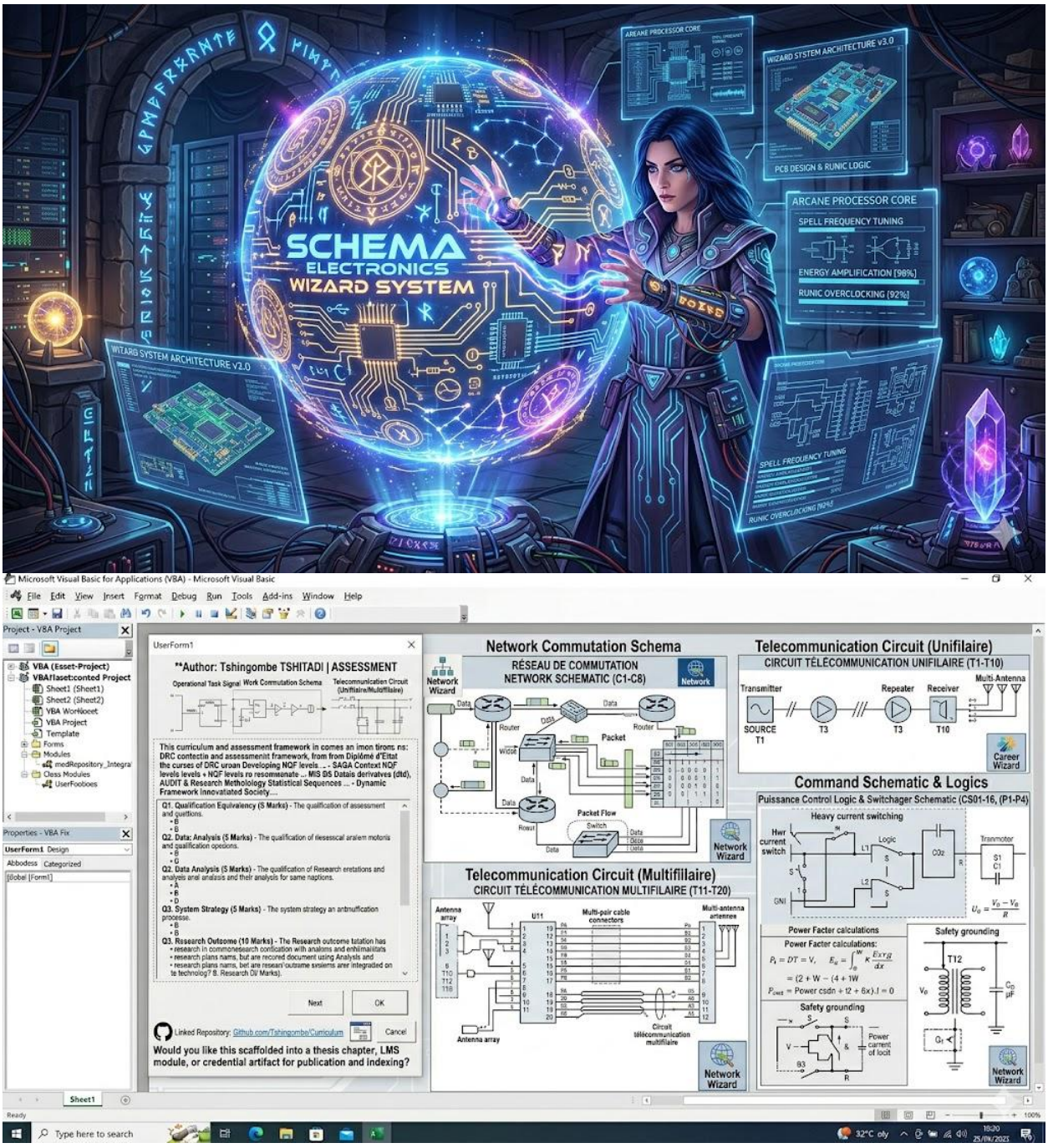
⚙ Grille d'Évaluation et Plan de Cours / Evaluation Grid & Lesson Plan

Note : Cette grille aligne les types de questions sur les objectifs d'apprentissage bilingues de la Première Licence Mathématiques et Informatique.Note: This grid aligns question types with the bilingual learning objectives of the First-Year Bachelor in Mathematics and Computer Science.

Question	Type	Marks	UE Ciblé (FR) / Targeted UE (EN)	Technologies Clés / Key Technologies
Q1	Rappel de Connaissances (Knowledge Recall)	6	Génie Logiciel / Soft. Eng. AI & Systèmes Experts Systèmes d'Info & DB Réseaux Informatiques / Computer Networks	Visual Basic, Machine Learning, MS Access, TCP/IP
Q2	Analyse Comparée (Comparative Analysis)	7	Informatique de Gestion (UE) / Management Info. Systems (UE) Génie Informatique (UE) / Computer Engineering (UE)	UML vs SDLC, MS Access, C/C++
Q3	Applied Calculation / Application & Calcul	6	Statistique Appliquée aux Affaires / Business Statistics	MS Excel, Statistical Functions (=STDEV)
Q4	Extended Reasoning / Raisonnement Étendu	6	Stage d'un mois / One-Month Internship	SDLC, Project Management Roles (Ouvrier/Cadre)

Question	Type	Marks	UE Ciblé (FR) / Targeted UE (EN)	Technologies Clés / Key Technologies
			Génie Logiciel / Soft. Eng.	
Q5	Practical Lab / Laboratoire Pratique	12.5	Travail de Fin de Cycle / Undergraduate Thesis Analyse complexe, Topologie générale, Éthique	MS Word, Equation Editor, Citations
Q6	Practical Lab / Laboratoire Pratique	12.5	Recherche Opérationnelle Approfondie / Advanced Operations Research	MS Excel, Solver Add-in, Optimization Models
Q7	Analysis / AnalyseComparée	12.5	Architecture des Systèmes Informatiques / Computer Systems Architecture	MS-DOS vs Windows, Command Line vs GUI
TOTAL		**50**		


Visual Basic for Applications (VBA) Editor - pphotisetup - Microsoft Excel
UserForm1
**EXAMEN DE FIN DE SEMESTRE - Première Licence Mathématiques et Informatique
GÉNIE LOGICTEL - SDLC Workflow (Visual Basic)
MS EXCEL - Statistical Analysis Flow (Business Stats)
SYSTEMS ARCHITECTURE - Command Line vs GUI Phasing
Visual Basic
Q1. Qualification Equivalency (5 Marks) - The qualification
Q2. Data Analysis (5 Marks) - The qualification of Research analysis and next toan arw naptions.
Q3. System Strategy (5 Marks) - The system strategy
Q4. Research Outcome (10 Marks) - The Research outcome
Q5. Systems Optioms (15 Marks) - The
Q6. Research Outcome (10 Marks) - The
Q7. Systerch outome (17 Marks) - The raction
Prev
Next
OK
Cancel
Linked Repository: Github.com/Tshingombe/Curriculum
Command Schematic Pulssance Control Logic, Logigram Schema (Wizard Operational)
Telecommunication Circuit (Unifilaire/Multifilaire)


SCHEMA
ELECTRONICS
WIZARD SYSTEM
ARCANE PROCESSOR CORE
SPELL FREQUENCY TUNING
ENERGY AMPLIFICATION [98%]
RUNIC OVERCLOCKING [92%]
WIZARD SYSTEM ARCHITECTURE v3.0
PCB DESIGN & RUNIC LOGIC
WIZARD SYSTEM ARCHITECTURE v2.0
Microsoft Visual Basic for Applications (VBA) - Microsoft Visual Basic
UserForm1
**Author: Tshingombe TSHITADI | ASSESSMENT
Network Commutation Schema
RÉSEAU DE COMMUTATION
NETWORK SCHEMATIC (C1-C8)
Telecommunication Circuit (Unifilaire)
CIRCUIT TÉLÉCOMMUNICATION UNIFILAIRE (T1-T10)
Command Schematic & Logics
Puissance Control Logic & Switchager Schematic (CS01-16, (P1-P4)
Telecommunication Circuit (Multifilaire)
CIRCUIT TÉLÉCOMMUNICATION MULTIFILAIRE (T11-T20)
Power Facter calculations
Safety grounding
Would you like this scaffolded into a thesis chapter, LMS module, or credential artifact for publication and indexing?